THESIS

RISK PROFILES IN INTEGRATED PROJECT DELIVERY AGREEMENTS – A COMPARATIVE STUDY

Submitted by

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ABSTRACT

RISK PROFILES IN INTEGRATED PROJECT DELIVERY AGREEMENTS –

A COMPARATIVE STUDY

Integrated Project Delivery (IPD) is a collaborative and communicative Project Delivery Method (PDM). It promotes lean principles such as team integration, Last Planner System, Big Room concept, Pull Planning, etc. Another important feature that sets it apart from other Project Delivery Methods is Multi-Party Agreements. Unlike other agreements that only two parties share, multi-party agreements aim to have as many relevant parties as its signing members. Sutter Health's IFOA, ConsensusDocs 300, and AIA agreements for IPD are the most widely used agreements on IPD Projects. There are an enormous number of unknowns to these agreements, as they haven't been as tried and tested in the courts of law as much as other agreements. There is a negligible amount of research done on them. No research exists on the comparison between the content of these agreements. To address this issue and to study and compare their clauses, a combination study involving collecting empirical and theoretical data was initiated. Data was collected through pilot interviews, an electronic survey and a detailed comparative content analysis. The objectives of this study are to provide information on a) Clauses in the agreements that require modification; b) Clauses in the agreements that have come up during disputes c) Similarities and differences in between these clauses; d) Effects of multi-party agreements on contractual privity during disputes; e) Mitigation strategies used to avoid and wade through risks. This research can also be utilized by organizations as an aid while selecting a suitable agreement for their IPD Project.

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DEDICATION

Dedicated to my Maa and Poppy.

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Chapter 1- Introduction

Construction is one of the key contributors to the global economy (Yee, Saar, Yusof, Chuing, & Chong, 2017). The owner, contractor and the architect/ Engineer (A/E) firms, and their respective sub-contractors and consultants come together to undertake construction projects. Due to the growing complexity of these projects as a result of design and technological innovation, it is crucial to avoid loss of resources due to inefficient functioning (Kahvandi, Saghatforoush, Alinezhad, & Noghli, 2017).

Integrated Project Delivery (IPD) is a Project Delivery Method (PDM) adapted from the lean production system developed by Toyota in Japan (Raisbeck, Millie, & Maher, 2010). It focuses on the enhancement of construction projects by integrating people, tools and services into a system (Yee et al., 2017). Integrated Project delivery is an innovative, and a non-traditional project delivery method that has taken into account a lot of the ambiguities and loopholes of the longstanding PDMs to form a system that would overcome these shortcomings based on improvement of time and cost factors and efficient communication among stake holders (Chan, Scott, & Chan, 2004). Franz, Leicht, Molenaar, and Messner (2016) state that there is an increasing agreement among members of the construction industry about the improvement in project performance due to the integration of people and resources.

Just like other PDMs, IPD has its own share of risks. The stakeholders in IPD projects have the option to choose to waive liabilities arising from negligent acts, and share profits based on the amount of risk managed by them (Zhang & Chen, 2010). IPD has many characteristics, just like these, that set it apart from other PDMs. Therefore, it is crucial to analyze if any of IPDs unique characteristics make the PDM vulnerable to disputes and claims.

Contractual privity can be defined as: When parties bound by a contract are unable to exert obligations on a third party, and the third party is constrained from suing the two parties for any demand in its favor (Jenkins, 1990). Parties that sign single party agreements are known to have limitations on being able to sue a third party that is not a part of the contract. Since IPD engages multi-party agreements, it would be interesting to observe how the play of privity changes the outcomes of dispute resolution in IPD projects. Due to lack of any existing literature on privity in correspondence with IPD, research is necessary on how it is affected by multi-party agreements (Lahdenperä, 2012)., and how industry personnel perceive this phenomenon.

IPD also sees the wide use of three agreements specially drafted for the PDM – Sutter Health's IFOA, ConsensusDocs 300 and AIA agreements for IPD. Although they have been drafted to cater to the same PDM, there are a lot of differences in the representation of certain clauses in these agreements. Since no literature exists on their comparison, or risk representation, this research aims to shed light on the same. Based on these gaps in existing literature, the following research questions were generated:

1. Which are the risks in IPD that are more vulnerable to cause claims and disputes?
2. How are these risks represented in the three commonly used IPD agreements- Sutter Health's IFOA, ConcensusDocs 300, and AIA contract for IPD?
3. What are the different prevention and mitigation strategies for these risks?
4. What are the effects of multi-party agreements on contractual privity as compared to that of single-party agreements?

In order to answer these research questions, this study was molded around the following objectives: a) Clauses in the agreements that require modification; b) Clauses in the agreements that have commonly led to disputes c) A comparison between these clauses as represented in Sutter

Health's IFOA, ConsensusDocs 300, and AIA agreements for IPD; d) Effects of multi-party agreements on contractual privity during disputes; e) Mitigation strategies used to avoid and wade through risks.

The literature surrounding Integrated Project Delivery Method and its agreements, terms such as Risk and Contractual Privity has been explored in the upcoming Chapter 2- Literature Review. It also elaborates more upon the gaps in this literature, which in turn shaped the research objectives and questions. The methodology designed to answer these questions has been specified in Chapter 3: Methodology. Then, Chapter 4 – Data Analysis elaborates upon the results of the application of this methodology, followed by conclusions drawn in Chapter 5 – Conclusion, Limitations and Future Research.

Chapter 2- Literature Review

Construction projects involve the legal binding of different parties. The owner, Designer, and contractor, sub-contractors and consultants are expected to sign agreements that would specify their scopes of work, allocate risks and responsibilities, as well as specify the technicalities of processes such as payments. Kulkarni, Rybkowski, and Smith (2012) state that variations in project objectives resulted in the establishment of Project Delivery Methods (PDMs). There are various types of PDMs, based upon the type of payment that the owner deems most suitable for the project, and upon the basic arrangement of responsibilities and order of duties of the parties involved, respectively (Figure 1). As described in Figure 1, before selecting a project delivery method, the project itself is divided into several categories- Project characteristics, owner's needs, and owner's preferences (Al Khalil, 2002). Project characteristics are further classified by their scope definition status, schedule type, payment type (contract) and the level of complexity of the project. owner's needs are established based on need for constructability, value engineering, contract packaging and budget estimates. owner's preferences for responsibility sharing, design control and overall involvement in the project post-award are identified. A project delivery method is decided upon the selection of the choices from the above categories.

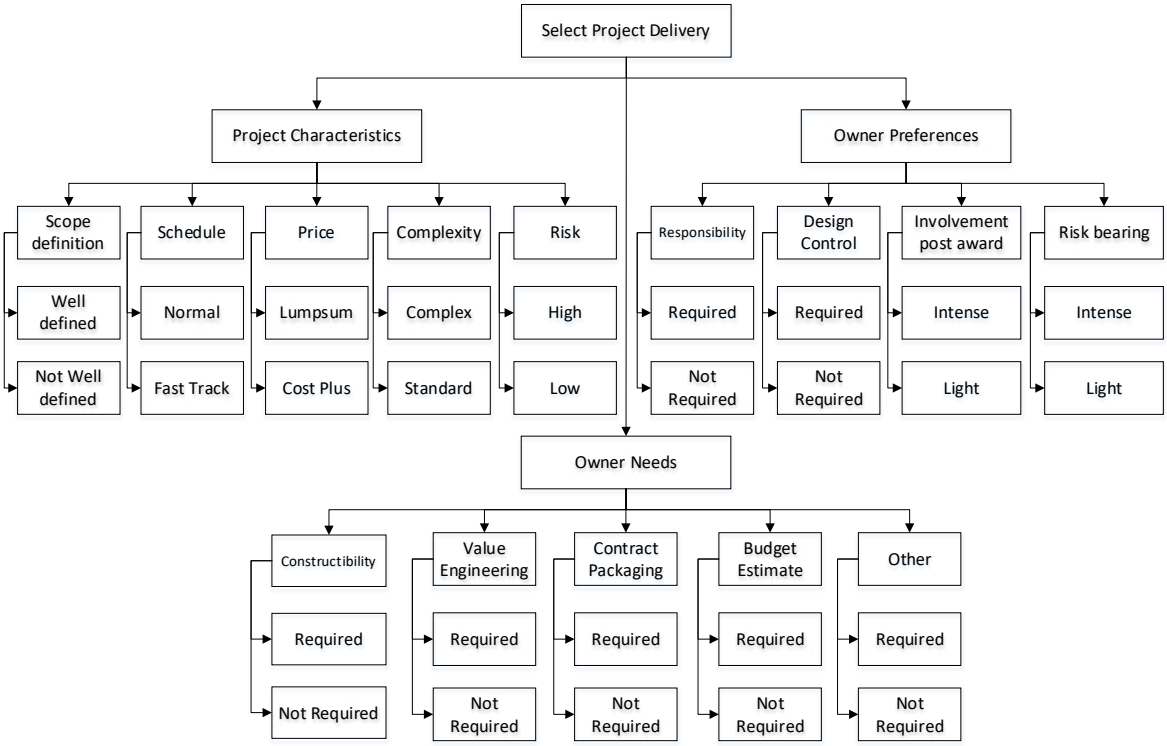

Figure 1: Hierarchy design for Project Delivery Method selection. (Adapted from Al Khalil 2002)

The owner has the option to choose one of the following types of commonly used Project Delivery Methods based on the conditions mentioned above.

2.1. Types of Project Delivery Methods (PDM):

PDMs can be categorized based on, but not limited to the amount of involvement of different parties at different stages, their roles and responsibilities (Al Khalil, 2002). This literature will focus on some of the most used PDMs in the construction industry – Design- Bid- Build, Design- Build, CM at Risk, Public- Private- Partnerships and contextualize them with Integrated Project Delivery (IPD).

2.1.1. Design- Bid- Build

Design-bid-build (DBB) is the most applied form of PDM in the architecture, Engineering and Construction (AEC) industry (Ghassemi & Becerik-Gerber, 2011). It is one of the most prevalent PDMs in USA, Europe and China, the major centers for construction (Yu, Shen, & Shi,

2016). Hale, Shrestha, Gibson Jr, and Migliaccio (2009) define Design- Bid-Build (DBB) as, a method in which the owner enters into separate agreements with the architect/Engineer (A/E) and the contractor to undertake a construction project. The authors state that the architect and Engineer are responsible to design the project as per the wants and needs of the owner and provide drawings and specifications for it. The owner, based on these documents, advertises for bids from contractors for constructing the project. He then selects the lowest, most responsive, and responsible bid from the ones he receives. The selected contractor then builds the project in accordance with the contract documents (Konchar & Sanvido, 1998).

The teams in DBB projects are often fragmented, as each stage of the project only succeeds the other, and does not run simultaneously (Yu et al., 2016). The chances of requests for information (RFIs) and change orders increase, as the contractor, with his vast construction experience, is not able to provide any expertise regarding the constructability of the project due to the absence of the contractor during the design phase (Al Khalil, 2002). DBB is most commonly used in public projects due to existing government restrictions on certain procurement processes, among others (Fisk & Reynolds, 1988).

2.1.2. Design Build

Under the Design-build (DB), the owner hires a single party that would be responsible for the design as well as construction of a project (Hale et al., 2009). This selection is generally quality based (Manning, 2012). DB requires only a single procurement since only one agreement exists between the owner and the designer and contractor (Yu et al., 2016). The Designer and contractor may be a single entity, a joint venture between organizations for the duration of the project, or one may even hire the other (Fisk & Reynolds, 1988). Unlike DBB, the designer and contractor are both involved in the project since the initial design phase which incorporates a high level of design

and construction expertise into the project from the early stages, causing a steady decline in design errors and potential change orders (Al Khalil, 2002). This PDM used to be vulnerable to hurdles, especially with public projects, due to certain government regulations including the basis for procurement of services but is widely used in public projects since the 90's, and also in private projects.

2.1.3. Construction Manager/General Contractor (CM/GC) or CM at Risk (CMAR)

Farnsworth, Warr, Weidman, and Mark Hutchings (2015) describe that as per the CMGC/ CMAR, the owner employs a Construction Manager who provides pre-construction services along with design input. The owner then possesses the choice of re-hiring the Construction Manager as the General contractor, who is responsible for the project construction. The method involves signing of two contracts: one between the owner and the CM/GC, and the other with the A/E. CMGC/ CMAR is said to be the most similar to Integrated Project Delivery in terms of contractor involvement in the project. owners are sometimes wary of this method as there may be a conflict of interest from the CM/GC's side (Fisk & Reynolds, 1988).

2.1.4. Public-Private Partnership (PPP)

The main purpose of PPP as described by (Li & Akintoye, 2003) is to deliver a project by utilizing the finances of the private sector. The most commonly used form of PPP is the Build-Operate- Transfer type which involves one or more private entities to invest in a public project, to operate it until the profits gained pay off their investments and to transfer it back to the public entity (Walker & Smith, 1995). PPPs are commonly utilized in Infrastructure projects (Fisk & Reynolds, 1988). An example for this would be- a private organization financing the construction of a bridge. Once constructed and functioning, the financing organization sets up toll stations to

gain their invested amount plus sometimes an interest, and then transferring the ownership rights of the bridge back to the public entity who proposed to construct it.

2.1.6. Integrated Project Delivery (IPD)

Integrated Project Delivery (IPD) is a cohesive method of Construction Project Delivery. It follows an 'integrated' approach towards the course of a project. According to American Institute of Architects (2007) "Integrated Project Delivery (IPD) is a project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize project results, increase value to the owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction."

The main features that set IPD apart from other PDMs as inferred by Ghassemi and Becerik-Gerber (2011) are:

a. Multi-party contracts
b. Early involvement of key participants
c. Collaborative decision making and control
d. Shared risks and rewards
e. Liability waivers among key participants
f. Jointly developed project goals

2.2. Conceiving an IPD Project

Ghassemi and Becerik-Gerber (2011) describe IPD as a PDM that integrates individuals and teams from the very early stages of a construction project. Traditional construction project delivery methods often result in a fragmentation among the people involved due to the sense of disconnect between the different stages of construction (Kadefors, 2004). The author states that

the teams sometimes may create a rivalry, trying to disconcert one another, resulting in financial losses and compromised quality of work. Due to such cases, a lot of owners were yearning for faith and reliability and collaboration among the teams they hired.

As written by the American Institute of Architects (2007) IPD heavily relies on collaboration in order to function smoothly. It demands that the personnel involved overlook any animosity and try to function as one entity through trust and confidence (Lichtig, 2005). All participants are expected to understand that there is mutual benefit in working in a cohesive manner in the form of maximized rewards. IPD counts on combined improvement and decision making in order to make key decisions, instead of leaving it upon the senior or more powerful members of the project to promote ideas.

One of the main features that sets IPD apart from all other project delivery methods, is that every team involved in the project is brought on board right since the beginning of the design process (Xie & Liu, 2017). All teams are thoroughly educated about the project and participate in every step of it. This allows a high amount of expertise to be consistently applied to the project from start to finish. Through the inputs received from all the parties involved, informed decisions can be made from the earliest stages about every aspect of the project. For instance, facts like constructability issues, alternate construction methods etc., that the designers and engineers wouldn't commonly know of are presented to them early on, which results in an efficient design, a steep decline in the number or RFIs and change orders (Ashcraft, 2014). Principles of IPD, as adapted from the research of Yee et al. (2017), that set it apart from other PDMs, have been tabulated in Table 1.

Table 1: Principles of IPD (adapted from Yee, Saar et al. 2017)

Principles	Sources
Contractual/ Legal Principles	Multi-Party Contract Agreement
	Early involvement of key participants
	Shared financial risks, rewards and mutual benefits
	Jointly developed and validated project goals and objectives
	Liability Waivers among key participants
	Fiscal Transparency
	Intensified early Planning
Behavioral Principles	Mutual respect and trust
	Collaboration
	Open communication
	No blame culture
	Organization and leadership
	Unrestricted shared information
	Proactive approach
Structural Principles	Lean Principles of design, construction, and operation
	Co-location by teams
	Team flexibility
	Operate without boundaries
	Collaborative innovation
	Collaborative decision making and control
	Pull Planning
	Big Room Meetings
Technological Principles	Building Information Modeling (BIM)

A few of the factors mentioned in Table 1 shall be elaborated upon in the coming sections.

American Institute of Architects (2007) explain that, “project goals” are established early on, which aids the project to stay on track and function within a pre-set structure through thorough discussion and brainstorming by all partakers.

A team-building strategy is laid in place since the very conception of the project, and all team members are brought on board through Quality Based Selection (QBS) - a team consisting of the owner(s), along with the architect(s), engineer(s), contractor(s), consultant(s) and subcontractors is built. Representatives from different teams may lead the IPD team at different stages of the project (Cheng, 2012). For instance, an employee from the designer’s company may

lead the team during design phase, and one from the contractors may lead during construction. It is very common for leadership roles to change during the lifespan of an IPD project. The author also states that if required by the owner, a third party can also be appointed as the leader to avoid any biases or animosity. Once the core team members of the project are identified, they all dive straight into delivering it.

2.3. Delivering an IPD Project

According to American Institute of Architects (2007) Guide to Integrated Project Delivery, the process of executing an IPD project can be divided into eight major phases. The conceptualization phase is when the scope of work is prepared. What will the project be? Who will design it? Who will build it? How will it be built? With the commencement of the schematic design phase, the design starts to advance, with incoming initial estimates, tentative schedules, and design and constructability inputs, from the teams involved. Based on these inputs, the design is further refined to best suit the owner's vision.

The detailed design denotes the conclusion of the schematic design phase. All design criteria are finalised including all the systems involved, building materials, all conflicts are resolved, and all aspects of the project are thoroughly coordinated by the team personnel involved in the project. The design and cost are finalized and shall accommodate limited, to no further revisions during construction documentation. This phase is often merged with the shop drawing phase, when all trade contractors and suppliers provide shop drawings defining how their systems will be applied into the project. These drawings are used by the personnel on site to refer to during the actual construction action. The agency review phase is considerably shortened due to the early use of BIM (Knight, 2008) in IPD projects. Agencies such as regulatory bodies, trade contractors and fabricators start reviewing the drawings starting all the way from the design review phase,

concluding a little after construction documentation. The phase includes first, the submittal of all necessary documents by the parties involved, and then the reception of permits and approvals from all associated organizations.

As team-building (Franz et al., 2016) is one of the first steps taken during IPD, most trades and roles in the project are already accounted for since the very beginning. Buyout commences during the conceptual phase and ends with construction documentation. Because of an early initiation, the phase is considerably shorter than that in other project delivery methods. Due to the time and effort put in the design phase, almost all aspects of the project are finalised before construction begins. Hence, during this process, most construction contract administration is limited to only quality and cost control. Since most decisions about the project are made early on, there are usually no RFIs involving the larger trades, and the construction process is much more efficient compared to the other project delivery methods. The project is virtually completed during this phase of its cycle. Following a heavy involvement of BIM in IPD, a smart 3D model, along with the project itself is conveyed to the owner (Yee et al., 2017). This model is then used to monitor security and maintenance, to compare planned building performance with the actual one, among other things. All incentives and penalties are distributed among the parties as per the contract clauses (Ballobin, 2008). Most other aspects, for instance punch-list items, remain consistent with other delivery methods.

2.4. Risk

Every construction project holds unforeseeable aspects. These unforeseeable aspects are known as risks, and may lead to a loss of finances, time, or even human life (Fisk & Reynolds, 1988). IPD is an evolving form of project delivery method, and is currently mainly used for large scale and complex construction projects (Choi, Yun, Leite, & Mulva, 2019). A complex project

involves a high amount of unpredictable circumstances that amount to risks. A party manages risk when it agrees to take on an uncertain part of a construction project. According to Ward, Chapman, and Curtis (1991), the following factors are crucial towards efficient risk management:

A. Complete knowledge and perception of the project and the risks associated with it.
B. Adequate capability and enthusiasm to bear the risk.
C. Ability to detect and assess risks in an organized manner.

All risks are to be borne by the owner by default, but the owner can choose to transfer these risks to other parties through clauses written in the supplementary specifications of the contract if the owner perceives an inability to manage risks successfully due to the lack of the factors mentioned above (Fisk & Reynolds, 1988). Some risks are common to all projects and project deliveries methods. IPD on the other hand has risks that are unique to it.

Zhang and Chen (2010) present the objectives of establishing a risk allocation framework in IPD as to assist the parties to grasp their liabilities in the project, to assess a mechanism for compensation, and to act in the best interest of the project. Zhang and Chen (2010) then proceed to categorize the risk allocation framework into:

A. A traditional provision, where each party is fully liable for its own breach of contract;
B. The risk/profit and liability sharing mechanism, where the profit gained by a party at the end of the project is calculated based on the amount of risk they endured. Higher the risk, higher the profit;
C. Liability harbour (Safe Harbour) mechanism, which when adopted, the parties agree to waive liabilities arising from negligent acts, omissions, and error in judgement, as long as they are not willful.

2.5. Claims and Disputes

A claim is defined as the declaration of the right to property, money, remedy, lost time, and relief, or a compensation for the damages made by any party to the contract (Hashem M. Mehany, Bashettiyavar, Esmaeili, & Gad, 2018). Construction claims can lead to losses between $ 4- 12 billion every year (Bashettiyavar, 2018). IPD currently is mainly used for large-scale and complex projects and encompasses the involvement of a hefty number of teams and professionals working together in a cohesive manner. The complexity of projects teamed up with numerous individuals, adds up to a substantial amount of risk. At times parties are unable to manage them, leading to disagreements and eventually to claims and/or disputes. The Dispute Prevention and Resolution task force of the Construction Industry Institute (CII) proposes a two pronged approach of 'Starting right' and 'Staying right' to parties involved in construction projects (Diekmann & Girard, 1995). While a lot of research exists on risks that are vulnerable to claims and disputes in traditional PDMs as well as those in IPD, the literature survey found no data on the representation of these risks in IFOA, ConcensusDocs 300 and AIA Contracts for IPD. This paper intends to fill this gap and present prevention and mitigation strategies as used by construction firms and advised by dispute resolution professionals. In the next sections, contracts drafted for IPD and their risk structure are highlighted.

2.6. Contracts in IPD

As opposed to the multiple single-party contracts signed between the owner and the participating entities in other project delivery methods, IPD relies on 'Multi-party agreements', which involves at least the owner, Designer and the contractor (also consultants and sub-contractors, if and when they are brought on-board) to sign the same contract agreement (Xie & Liu, 2017).

As Lahdenperä (2012) writes that, a lot of thought and effort goes into multi-party agreements. Parties need to trust one another and work in harmony. This is especially challenging when the participating teams do not have enough prior IPD experience and/or are working together for the first time. Sutter Health's IFOA, ConcensusDocs 300, and American Institute of Architects' (AIA) Contracts for IPD are the most commonly used contracts in IPD projects. The following sections shall shed light upon them. Due to shortage of available literature on the comparison of the three contracts, some of the data is self-analysed.

2.6.1. Sutter Health's Integrated Form of Agreement (IFOA).

Sutter Health is a non-profit health care organization that has its headquarters in Sacramento, California. It started to expand its facilities to different parts of California after the 1994 Northridge earthquake that caused significant damage to the state. (Lichtig, 2005) wrote that by the year 2012, Sutter Health was aiming to construct US$ 5.5 billion worth of property. In order to do this efficiently, they turned to Lean construction. To process this in the absence of contracts meant especially for IPD, it drafted the IFOA with the help of Attorney William A. Lichtig esq.. The IFOA involves its participants sign a multi-party agreement.

2.6.2. ConsensusDocs 300 (ConsensusDocs, 2012).

ConsensusDocs is an organization that consists of forty entities with members from all stakeholders in the design and construction industry that have come together to publish over 100 contract documents aiming at all PDMs (ConsensusDocs, 2012). The ConsensusDocs have drafted the contract 'ConsensusDocs 300' particularly for IPD projects. It was inspired from the IFOA contract. The first agreement was drafted in the year 2007, and then amended in the year 2016. This contract implements a collaborative approach such that all decisions are made by a multi-disciplinary team in the best interest of the project. It utilizes the fundamental principal of 'Lean

Project Delivery' and its ideals of Last Planner system, Target Value Design and Built-In Quality. The contracts allow the team to create 'commercial terms' that govern the distribution of risks and rewards among the team members in accordance with lean principles.

The multi-party agreement is signed between the owner, Designer and contractor at the earliest possible stage of the project. Other teams can be added to this agreement after adding more signatories to the agreement with the help of legal counsel. If parties get appointed later, they sign the ConsensusDocs 396 Standard Joining Agreement. After the signing of the agreement, all the parties potentially become members of a common risk pool.

2.6.3. AIA Documents (American Institute of Architects, 2007)

American Institute of Architects (2007) write that having multi-party agreement, also known as 'umbrella agreement', in IPD is essential as it aids all the signing parties to be informed of their roles and responsibilities in comparison with the others. This is crucial since all parties in IPD are on board the project at the very beginning. The following are some features of multi-party agreements as stated by American Institute of Architects (2007):

A. All parties are bound together by a single contract.

B. All responsibilities are assigned to personnel who can successfully perform them.

C. All processes are tailored for the specific project.

The AIA divides multi-party agreements into three categories: Project Alliances, Relational Contracts and Single Purpose Entity.

2.6.3.1. AIA C-191 – Project Alliance

Through Project Alliances, the owner firm promises to pay all non-owner entities all their direct costs, but all other costs like overheads, profits, and bonuses depend upon the project

outcome (American Institute of Architects, 2007). They mention that this setting, all companies put even more effort in making the project successful.

2.6.3.2. AIA C-195 – Single Purpose Entity

The American Institute of Architects (2007) write that a Single Purpose Entity (SPE) is a legal entity formed just for the duration of realizing a project. The entity participants all have equity interest in it and always get paid for their services. Although temporary, it requires to pass the same legal regulations as other companies, and needs to have necessary insurance (American Institute of Architects, 2007). Relational contracts involve the merging of the different teams involved into a single organization for the duration of the project. The teams limit their liabilities towards each other, but do not completely waive it. All decisions are made through a team consensus, but the owner still retains the right to make the final decision in the absence of it (Colledge, 2005).

2.7. Contractual Privity

Contracts in traditional PDMs are signed between the owner(s), Designer(s) and contractor(s). The sub-contractors have a separate agreement with the contractor and are not a part of the contract between the aforementioned parties (NASFA, APPA, & AGC, 2010). Parties like consultants, suppliers and vendors are not a part of the primary agreement either. This arrangement gives rise to ‘contractual privity’. Contractual privity is when the signing parties are lawfully forbidden from conferring any rights or imposing any obligations on non-signers, and vice-verse (Palmer, 2006). Also, the parties are prohibited from suing each other or claiming damages (Whelan & Gnoss, 1968). A dilemma arises of how to act in the event of a risk situation. How do the three multi-party agreements in IPD mentioned previously affect the play of privity in case of disputes? It has also been observed that the AIA has multi-party agreements as well as single party

agreements between the owner, contractor and the designer. Some crucial clauses are mentioned in these agreements signed exclusively between two parties. It is important to find out how this setup affects privity differently than the IFOA and ConcensusDocs300, which only have one form of agreement each.

2.8. Summary

This literature survey has identified the commonly used Project Delivery methods: Design-Bid-Build, Design-Build, Construction Manager/General contractor, and Public-Private Partnerships in comparison with Integrated Project delivery. It then proceeds to highlight the process of IPD in detail, along with the commonly used contracts: IFOA, ConsensusDocs 300, and AIA contract. Special emphasis has been laid upon the risk profiling in these documents. A factor that was found common in all three IPD contracts was the fact that the profits of the parties would always be in jeopardy in case of any risk situation.

Tremendous amount of research exists on the comparison of IPD with other project delivery methods (Al Khalil, 2002; Richard Hudson Clough & Sears, 1986; Fisk & Reynolds, 1988; Hale et al., 2009; Construction Industry Institute, 2003). Some research also exists on comparing IPD agreements with the agreements meant for other PDMs (Harper & Molenaar, 2014; Lahdenperä, 2012). But, there is limited research done on the comparison of various aspects of IPD contracts among themselves (Ballobin, 2008).

This literature review also explores the term contractual privity. Current literature on privity imparts general information about the term as a part of any business contract and its effects on the signing parties, with only a few researchers venturing into the impact of privity on construction (R.H. Clough, Sears, Sears, Segner, & Rounds, 2015; Whelan & Gnoss, 1968). Not a hint of existing literature sheds light on the influence of contractual privity on IPD contracts.

Due to a major difference between other PDMs and IPD being Single and Multi-party contracts, there is a need for research to be done on the effect of contractual privity on the multi-party agreements in IPD.

This research intends to analyse the risks in IPD, and the effect of contractual privity on multi-party agreements. It explores the views of construction industry personnel- owners, Designers, contractors, and Sub-contractors on this risk, as well as those of dispute resolution professionals, their strategies to prevent and mitigate it, and their opinions about contractual privity.

Based on the above factors the following research questions were generated:

1. Which are the risks in IPD that are more vulnerable to cause claims and disputes?
2. How are these risks represented in the three commonly used IPD agreements- Sutter Health's IFOA, ConcensusDocs 300, and AIA contract for IPD?
3. What are the different prevention and mitigation strategies for these risks?
4. What are the effects of multi-party agreements on contractual privity as compared to that of single-party agreements?

In the forthcoming chapter, the steps taken to conduct this research and analysis shall be explained.

Chapter 3: Methodology

3.1. Overview

After conducting a literature survey on IPD and its different contract forms, limitations and gaps in the research were identified and formulated into four research questions. This chapter outlines the research methodology used in order to answer the research questions mentioned in the conclusion of Chapter 2.

To answer the research questions, this research aims to achieve the following objectives:

1. Compare and understand differences between the three commonly used IPD contracts: Sutter Health's IFOA, ConcensusDocs 300 and AIA contracts for IPD;
2. Analyse the risk profiles in the contracts and identify the ones that make the PDM vulnerable to claims and disputes;
3. Identify the various prevention and mitigation strategies adopted by IPD teams, and recommended by dispute resolvers;
4. Understand and convey how multi-party agreements in IPD affect contractual privity, as compared to the single party agreements in traditional PDMs.

These objectives were addressed by conducting a mixed- method research. The research was divided into three stages: pilot interviews, an electronic survey and comparative content analysis (Figure 2). The pilot interviews were conducted with the general counsel working with a general contractor and an independent lawyer both based in the US, and data regarding their experiences with disputes in IPD projects, risks in IPD, difference between risk profiles between IFOA, ConcensusDocs 300 and AIA contracts, and how the presence of multi-party contracts has affected the courses and outcomes of IPD disputes was collected.

Their responses to these questions were analysed and used as a foundation in forming the questions for an electronic survey that was circulated among industry professionals with IPD experience. The data collected from these surveys was then used to identify the clauses in the four IPD agreements which have led to disputes, and that are most commonly modified. Lastly, a comparative analysis was conducted on how these clauses are represented in the agreements, and how this representation is similar to or different from one another. Given the different representation of risk sharing among them, the risks have been thoroughly analysed and compared between the agreements.

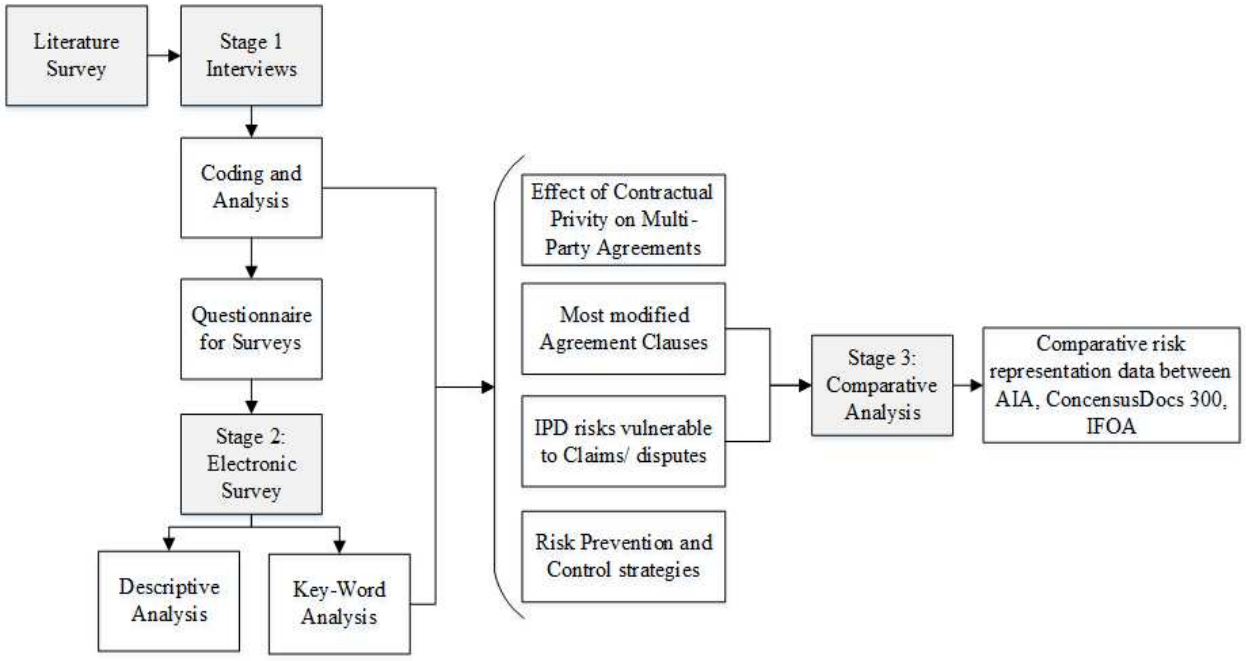

Figure 2: Research Methodology

3.2. Population and Sample

Populations and samples were selected differently for the different stages of the methodology due to the difference in data required.

The initial approach adopted for targeting a sample for the pilot interviews was to contact and interview Arbitrators from the American Arbitration Association. This approach failed due to

their unavailability, and a lack of IPD experience among most. Then, a second approach was adopted, where two lawyers who were key-note speakers at a conference on Lean Construction, with experience working on IPD projects, as well as similar research interests as this study, were contacted. In person or telephonic interviews were planned. The interviewees have both worked on two IPD projects each. Interviewee 1 has been working as a General Counsel for their General Contracting company for 12 years and has worked on two IPD projects, and Interviewee 2 has been practicing Law since 1978 and has experience with four IPD Projects.

Owner, contractor, architect/ Engineer, and Sub-contractor and Consultant teams in the US with IPD experience, were identified through internet searches of completed IPD projects, for the second stage of the research, and the electronic surveys were sent to them.

The data received on risk profiles, the most dispute causing risks and the effect of contractual privity on multi-party agreements was then analysed and compared within the three commonly used IPD contracts namely, ConcensusDocs 300 and AIA contracts for IPD, and the similarities and differences in their representation pointed out.

3.3 Data Collection Procedures

As previously mentioned, the mixed research design (Brannen, 2017; Creswell & Creswell, 2017; Daniel & Harland, 2017) used three different data collection procedures to collect the needed quantitative and qualitative data required to achieve the research objectives. The main forms of data collection were exploratory expert interviews, electronic surveys, and comparative content analysis.

3.3.1 Pilot Interviews

Face- to- face interviews, which comprise the quantitative phase of the research, have been conducted with two lawyers, with particular experience in IPD projects and similar research

interests as this study. The ‘qualitative’ approach (Creswell & Creswell, 2017; Daniel & Harland, 2017) of the interview was selected to communicate via a free flowing conversation and provide a direction for shaping the next stages of research. This aspect of the mixed research assisted in establishing an in-depth explanation, and establishment of theories as answers to the research questions (Creswell & Creswell, 2017; Daniel & Harland, 2017).

The interview questions were sent to the interviewees well in advance of the actual interview to aid them to prepare their answers and gather all necessary data. The interviews were structured with the following themes.

A. Demographic information about the interviewee them self, for instance their company information, work experience, experience with IPD, etc.
B. Questions about the disputes they resolved in IPD projects. These questions mainly pertained to project type, size, risk structure, cause of dispute, and decision made.
C. The interviewee was asked what they would advise the involved teams to do differently in order to dodge such disputes in the future.
D. They were also asked to suggest some mitigation strategies to deal with possible losses occurring due to these disputes.
E. They were requested to examine the effect contractual privity would have in case of single-party agreements being utilized for the said projects. The reverse situation of how the presence of contractual privity affected multi-party agreements in the said disputes was also scrutinized.

Specific interview questions and transcriptions have been indicated in Appendices A and B respectively.

3.3.2. Electronic Surveys

With the data collected through the interviews a questionnaire has been generated for electronic surveys. This was done by carefully analysing the interview responses and framing questions that would aid in understanding common industry practices for risk management and sharing, understanding the commonly used strategies by construction teams to prevent and mitigate disputes, understanding industry perspective of the three IPD contracts being considered for this research, as well as their effect on contractual privity. This questionnaire was circulated among owner firms, architects, contractors and Sub-contractors. The responses received from these surveys were analysed to gain perspective on what the teams perceive as potentially detrimental risks, and the strategies they prevent and mitigate them with. Survey method was chosen for this step to easily interact with a relatively large sample of diverse construction teams individually to know their views. The survey comprised of both fixed and open-ended questions. It consisted of the following sections:

A. Section 1: Demographic information about the respondent. Details like company information, work experience, experience with IPD in terms of number of IPD projects worked on, the completion status of the said projects, and how many of these projects involved disputes.
B. Section 2: The Contracts they used, found favorable, the presence of the agreements in the industry, and their preferred choice for the future.
C. Section 3: It contained questions asking the respondent to select their modification patterns to the original agreement
D. Section 4: Questions about risks that may have led to disputes, whom they occurred in between, and what the outcomes of the disputes were, and risks they are especially wary of.

E. Section 5: Questions about difference in the resolution outcome if contractual privity was in play.

F. Section 6: Questions about prevention and mitigation strategies adopted by their company to manage risks.

Specific survey questions have been indicated in Appendix: C.

3.3.3 Comparative Content Analysis

Then, also based on the responses received during the interviews and surveys, risks that commonly lead to disputes or claims were identified. Sutter Health's IFOA, ConsensusDocs 300 and AIA contracts were systematically analysed and compared based on the factors as depicted in Table 2 which are perceived as potentially dispute causing risks, and were mentioned by the interviewees as prone to disputes and comprise the 'content analysis' part of the mix method research (Brannen, 2017; Creswell & Creswell, 2017; Daniel & Harland, 2017):

Table 2: Clauses in IPD Agreements to be compared

Clause	IFOA	ConsensusDocs 300	AIA C-191	AIA C-195
	Clause Number			
Team responsibilities	4	3.1 - 3.10	2.2	8.2
Target Criteria, Target Cost and Estimated Maximum Price	9.1; 9.4; 9.10	5.1.3; 6.6.1; 11	5; Exhibit D	5; Exhibit E
Risk Pool	14	10	5.4.2; Exhibit D	5.2.3; Exhibit E
Changes and Faulty work	24	15	Exhibit A.3	C-295: 9
Progress & Final payments	28; 30	9; 16	Exhibit A.12	A-195: 5; B-195: 4; Exhibit E
Suspension and Termination	39	17	10	A-195: 10; B-195: 6
Dispute Resolution	14	10	8	12

For the aforementioned data collection procedures section, the following section will explain the data analysis methods utilized for the collected qualitative and quantitative data.

3.4 Data Analysis Methods

3.4.1. Coding and Key Word Analysis

The research interviews were conducted in person and a voice recorder was used to record the data. NVivo was the choice of software for the transcription and coding of this data. The data was coded by keywords that were established based on the similarities and differences in the interview responses, and an initial study of Sutter Health's IFOA, ConsensusDocs 300 and AIA agreements. These key words were then used to summarize the interview and draw inferences. The keyword analysis was also used later on to quantify the data recorded for the open-ended questions in the Survey.

3.4.2. Descriptive Statistics

The data collected in the electronic surveys utilized descriptive statistics. The descriptive statistics aided in understanding the overall data trends and frequencies, e.g. Clauses most modified in IPD agreements. SPSS was the statistical software used for the purpose of this study to run these statistics.

3.4.3. Comparative Content Analysis

Based on the findings of the interviews and survey, clauses most modified, and clauses that led to disputes as per the experience of the respondents were identified, a detailed study was conducted on certain clauses of the agreements, and the data was compared based on differences in between them. These clauses were: Team Responsibilities, Expected Cost, Target cost and Estimated Maximum Price, Risk Pool, Changes in Work, Payments, Suspension and Termination and Dispute Resolution.

The next chapter focuses upon the Data collection and Analysis based on the methodology detailed in this chapter.

Chapter 4 – Data Analysis

4.1. Pilot Interviews

The chief intent of the interviews was to establish a foundation for structuring the next methodology steps of this research. The pilot interviews were conducted before designing the further stages of the methodology to aid in further understanding the problem and later build an appropriate survey to be directed towards a larger sample of professionals. The interviews were also key to understanding the answers to some of the research questions that were later supported by the analysis of the survey reports. The interviews were conducted with the General Counsel of a reputed General Contracting company and an independent Lawyer, all based in the US. They both worked together on behalf of General contractor and owner parties respectively, on two major IPD healthcare Projects. The independent lawyer has experience working on two other IPD projects as well. The questionnaire and transcripts of these interviews have been provided in Appendices A and B. The findings from them have been outlined below.

4.1.1. Members and modifications of the Agreement

In IPD, one of the foremost decision the team needs to make after defining which agreement to use, is determining the teams that will be included as signing parties on the multi-party agreement. This usually requires establishing the critical scopes in the project, and allowing those parties on board. By not having the excessive, non-critical parties on the main agreement as voting members, the decision-making panel on the agreement is fine-tuned. This integrative quality of IPD is beneficial as it brings diverse backgrounds, expertise and beneficial invaluable opinions to the table. However, complications to the process can also be a burden as it slows down the process of finalizing the clauses on the overall Agreement. Another major concern in multi-

party agreements, given that the agreement is in between multiple teams, the incorporation of contradicting clauses suggested by the different parties can prove to be very difficult and cumbersome. Therefore, it is vital to consider the relationship between teams while modifying, adding or removing clauses in the agreement. Given the high number of teams, it may take longer to negotiate the agreement based upon the general consensus between them.

4.1.2. Contractual Privity

While it is of utmost importance to carefully limit the parties that are members to the agreement, it is also critical to consider contractual privity and devise ways of holding all parties answerable for their actions. Contractual privity would not allow parties to petition non-members of the agreement in case of disputes, unless they have a direct separate contract with them. Due to this issue, parties choose to add clauses to the agreements to establish a way of exercising Litigation with the non-members if required. This has been one of the major debatable concerns in executing multi-party agreements in IPD projects.

4.1.3. Long Term Liability

In IPD, long term liability is one of the risks that the parties mostly agree to bear. However, it is it is difficult for teams to accept long-term liabilities on behalf of parties through indemnification and liability waiver, as it is a practice completely contrary to other traditional project delivery methods. Therefore, the relationship of the teams is very important in determining the risk related clauses in the agreement. It is also very important to visualise risks that can materialize not only during the duration of the project, but also in the long-term – such as during and/or after warranty periods and add relevant clauses to the agreement accordingly. Hence, the agreement always requires several modifications to ensure the long-term liability risk is allocated proportionally to best party in position to bear the risk. Teams meet more often to systematically

strategize the mitigation of such risks and make provisions in the contract documents for their effective avoidance and management since the long-term liability issues is echoed in different parts of the agreement such as: Team responsibilities, Changes, Risk Pool, Costs, Dispute Resolution among others..

In doing so, the interviewees emphasized the importance of clarifying certain terminology used in the agreements that may have different meaning to one party as compared to others. These include standard of care, negligence, allocations of insurance, limitation of liability. Since all four agreements contain these terms, and different parties hold them up to different standards, specifically outlining their meanings and extents to substantially lower the chances of disputes.

4.1.4. Dispute Resolution

The interviewees suggest that the IPD principles that promote the internal resolving of disputes, without escalating to the level of litigation, have led to these documents being rather untested in the courts. In fact, both mentioned that they do not possess any higher-level dispute resolution experience in IPD, since none of the IPD disputes on the projects that their organization have ever worked on escalated enough to require litigation. All other means of dispute resolution such as negotiation, mediation and arbitration, require the process and its outcome to be confidential, allowing a negligible amount of information to be available to study.

Privity also became the forefront in dispute resolution issues regarding the parties who were not a signing party on the multi-party agreement such as consultants and sub-contractors hired by the architect or general contractor via separate agreements. Their absence from the multi-party agreement would prohibit teams other that the architect and contractor to be able to hold them accountable for issues they may be liable for. To address this issue, the interviewees stressed

the requirement of clauses in the agreement that would enable the parties to act against non- signer defaulters in the multi-party agreement. These clauses would require reflecting in both, the multi-party agreements, and the separate single-party agreements between parties.

4.1.5. Ease of Use

The interviewees explained that each agreement was fit for use in its raw form but they always need to be modified based on the specific needs of the project, and/or the business deal desired by the owner. They expressed their overall displeasure with the electronic format for ConsensusDocs 300, which made it problematic to use. They also pointed that both the AIA agreements have their exhibits as separate documents, with files' security settings avoiding their merger – which means the user must work on approximately 10-12 different PDF files each time the document needs to be updated. This requires constant rework on multiple files as and when revisions are requested.

These interviews addressed the different issues regarding the importance of contract modification, ease of use, the shortage of information on disputes, and absence of clauses related to contractual privity in IPD agreements. It provided certain uncomplicated solutions to avoid disputes, such as clarity of terminology, and the diligent selection of parties as signing members on the agreement. However, it provided a strong base to extract more information from a larger sample of IPD professionals through the electronic survey phase. Based on the findings from the interview, a survey questionnaire, as per Appendix C, was created and circulated among 103 owners, architects, contractors and Sub-contractors.

4.2. Survey

An online survey questionnaire was circulated among 103 professionals – 42 in General Contracting firms, 22 architects, 17 Engineers, 12 in sub-contracting firms, and 10 Dispute Resolution specialists (Negotiators, Mediators, Arbitrators and Lawyers) . They were identified through an internet search on completed IPD projects in the US and finding information on the teams involved in them. A total of 34 responses were recorded, including partial ones, setting the response rate at 33%. The collected data was analysed, and the results were reported below.

4.2.1. Descriptive Analysis Results

4.2.1.1. Contract forms – Frequency of Use and Clause Modification

As shown in Figure 3, the responses showed that AIA C-191 is the most commonly used IPD agreement, followed by ConsensusDocs300 and IFOA, in that order; and none have worked with AIA C-195. The two mostly used IPD contract forms were further analysed to discover what the most modified clauses within each contract were. The results shown in Figure 4 and Figure 5 denoted that Team Responsibilities, Compensation and Team Responsibilities are the most modified clauses in the agreements. Team Responsibilities, Dispute Resolution and Risk Sharing and Management of the project were some other clauses that seemed to need modifications. This data is a generality among all four agreements, and not specific to any agreement due to the vast difference in the number of responses recorded related to each of them.

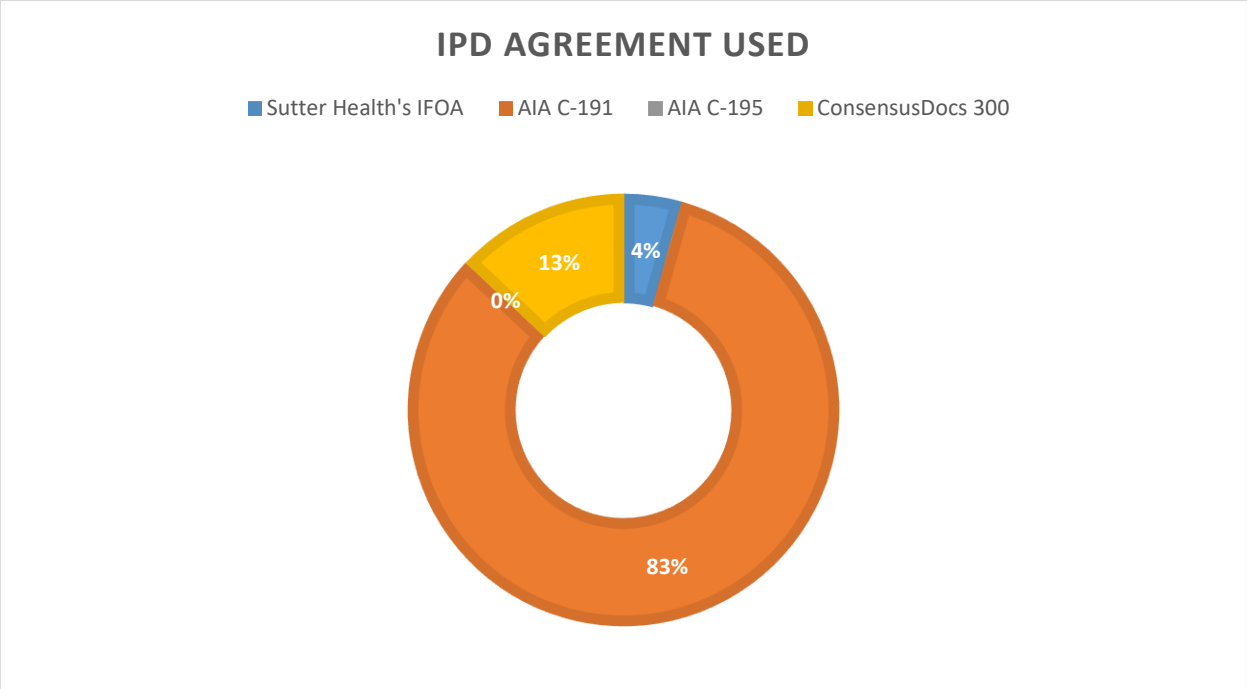

Figure 3: IPD Agreement Used

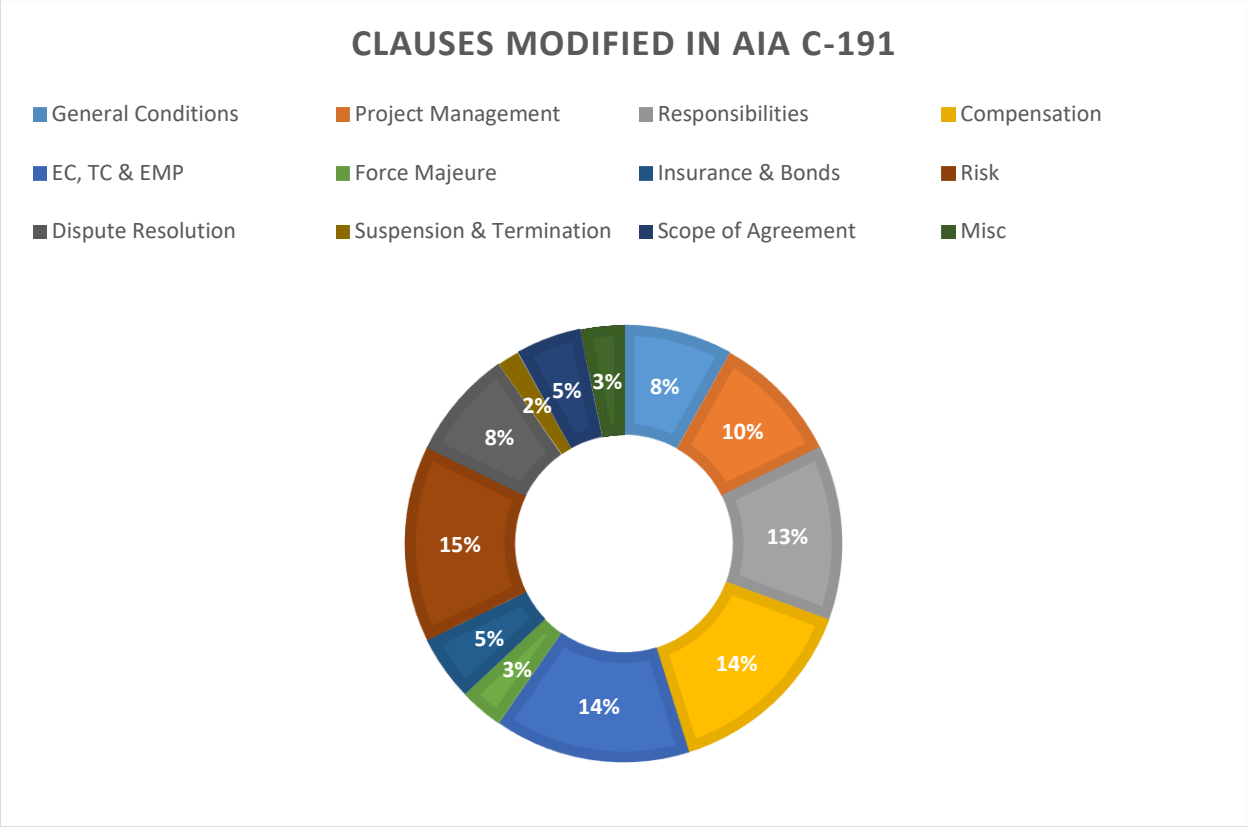

Figure 4: Clauses Commonly Modified in AIA C-191

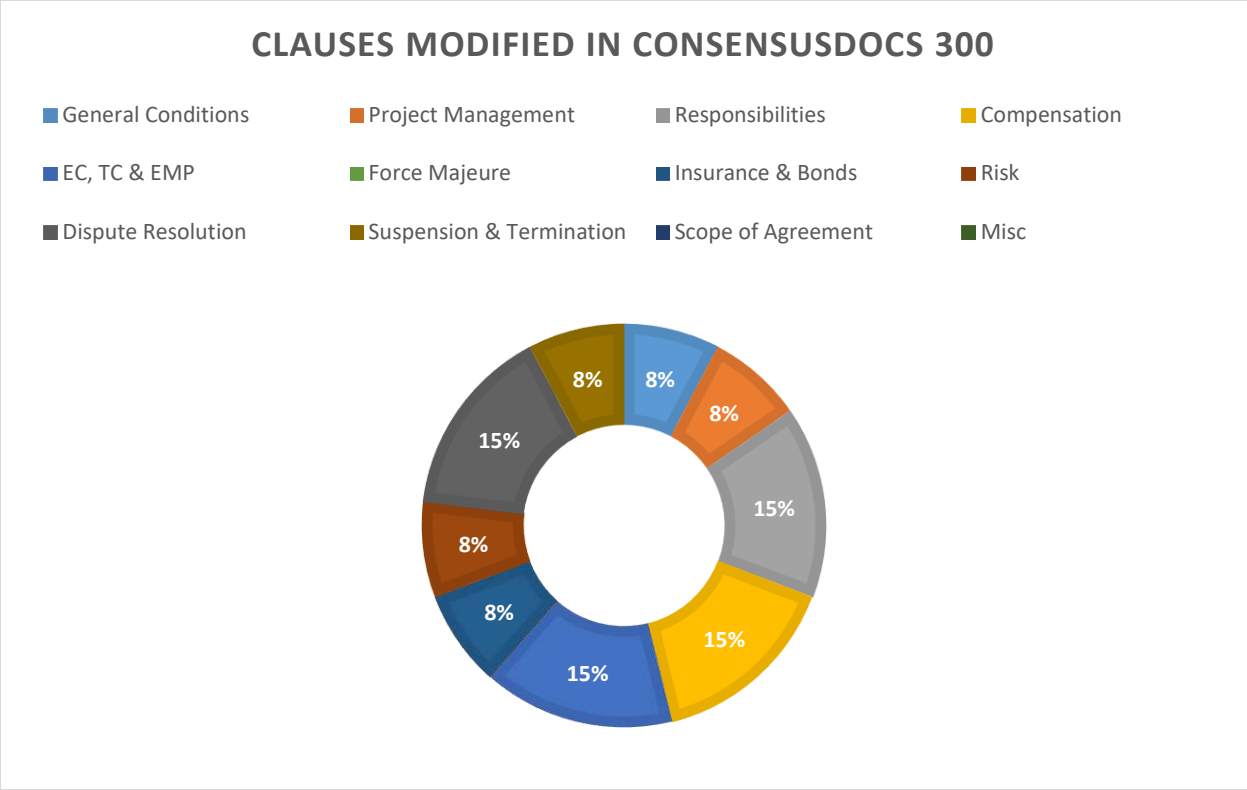

Figure 5: Clauses Commonly Modified in ConsensusDocs 300

4.2.1.2. Causes of Disputes

The survey analysis focused on the disputes in terms of the dispute causes, the phase where they are most probable to occur, and their resolution methods. Figure 6 depicts the most reported causes for disputes and disagreements which can lead to disputes on IPD projects. The top three causes were Costs, Defective Design, and Changes which are followed closely by delays. Almost all these disputes occurred during the Construction Phase, followed by Pre-construction and Design Phases. Close-out, warranty and post warranty period, and other phases had a negligible number of disputes (Figure 7). Three out of the eighteen respondents have not experienced any disputes on their IPD projects so far. Figure 8Figure 8 shows that most of the disputes were solved through internal discussions, and only two respondents reported that the disputes in their projects

escalated to the level of negotiation, one underwent mediation, and none of the disputes escalated to litigation.

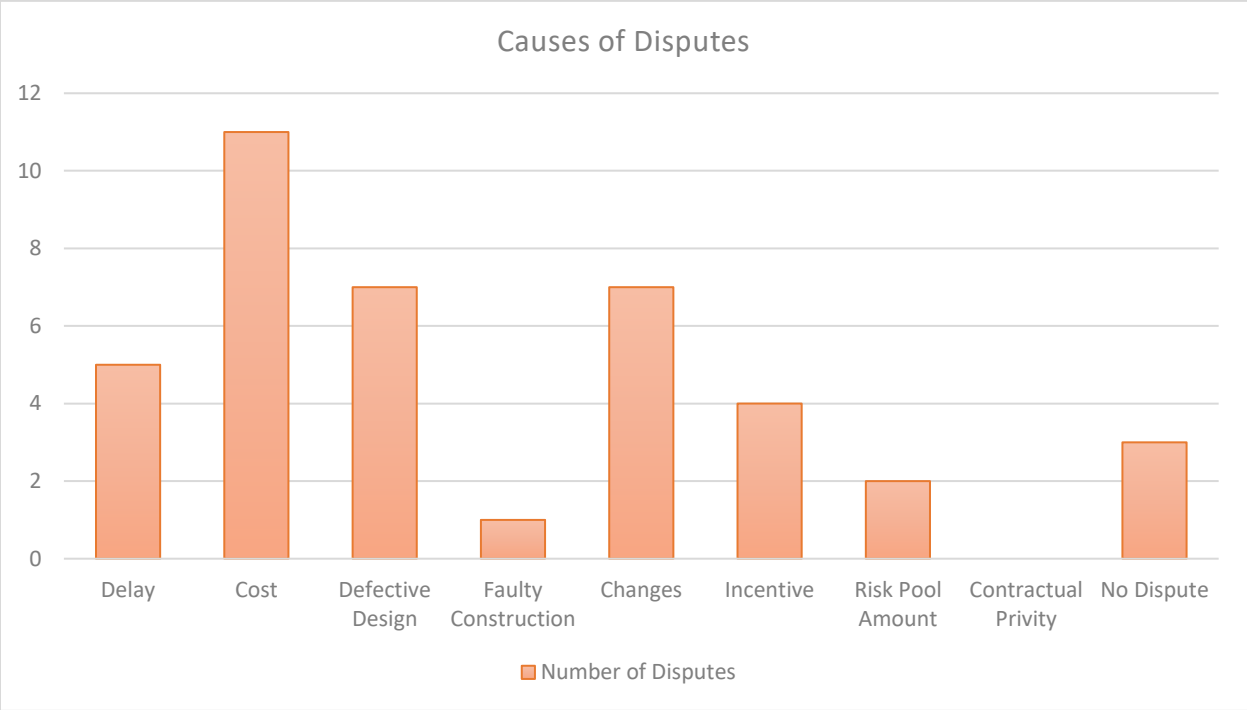

Figure 6: Causes of Disputes in IPD

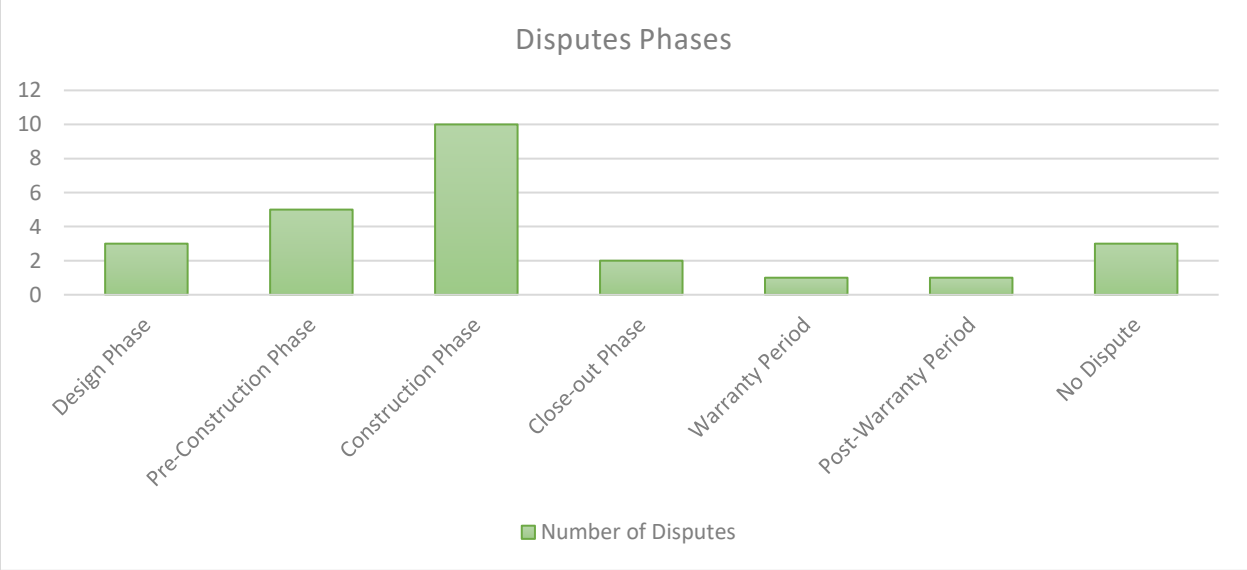

Figure 7: Dispute Phases

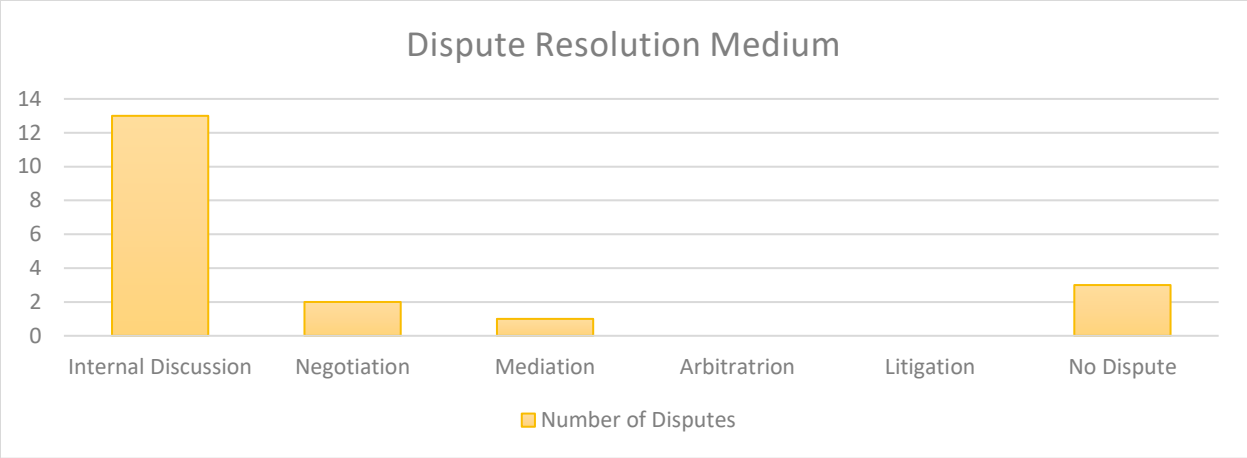

Figure 8: Dispute Resolution Medium

4.2.2. Key Word and Phrase Analysis Results

In order to know more about the effect of contractual privity on multi-party agreements, and the risk mitigation strategies applied by companies, a few open-ended questions were circulated as a part of the survey, and to analyse their answers, a key word/phrase analysis was run on the responses to identify any patterns in the qualitative data . Table 3 indicates the occurrence of these key words and phrases in the responses for questions related to contractual privity and risk mitigation strategies respectively.

Table 3: Key Words and Phrases

Contractual Privity	Appearance	Risk Mitigation	Appearance
Collaboration	5	Communication	5
Internal Resolution	5	Early On-boarding	4
Joint Responsibility	4	Teamwork	4
Review Time	3	Insurance	3
Early on-boarding	2	Risk assessment as a team	3
Team approach	2	“Bad news early is good news”	2
Determine the best approach	2	Transparency	2

4.2.2.1. Effect of Contractual Privity on Multi-party Agreements

As seen in Table 3, of the fourteen comments received regarding the effect of contractual privity on multi-party agreements, five found that applying one of the prime principles of IPD,

‘collaboration’, has led to a substantial reduction in the occurrences and escalation of disputes, and hence the privity’s main issue which is focused on disputing with a “non-agreement” party. Accordingly, five respondents conveyed that it is their mission to solve all disputes internally, unless unavoidable. The principles of IPD also reinforce joint responsibility, where each party takes responsibility for the actions of others, to a certain extent, through indemnification and liability waivers. A four respondents thought this was vital towards the smooth functioning of the project. Other common practices mentioned by the respondents to reduce the potential negative effects of privity are early on-boarding in order to have as many relevant parties on the same agreement as possible; utilizing innovative ways to assess risks.

4.2.2.2. Risk Mitigation Strategies

As shown in Table 3, upon being asked about the risk mitigation strategies, five of fourteen respondents mentioned that communication is key as it has been vital in avoiding, as well as working through and solving disagreements and disputes. Four stated that early on-boarding allowed a diverse expertise to be involved in the project from its initial stages leading to a low number of issues, and in-turn disputes. A few agreed that sincere teamwork was important. Others stated that an appropriate insurance, risk assessment as a team, maximum transparency, and diligently following IPD principles was crucial. A new phrase encountered was “Bad news early, is good news”. This responder said that the teams were always on the watch to catch issues while they were still in preliminary stages and terminate them before they could escalate to a higher level.

In light of the survey results, between the most modified clauses in the different contract forms and the clauses which is closely linked to dispute potential, the following issues were the most prominent: Compensation, Risk sharing, Target Cost and Criteria, Suspension and

Termination and Dispute Resolution. The most frequent causes of disputes were found to be Cost overruns, Defective Design, Incentives, Changes, and Delay. Therefore, upon an initial study of the agreements, these issues were mostly part of the topics and contractual articles related to - Team Responsibilities, Expected Cost, Target Cost and Estimated Maximum Price, Risk Pool, Changed, Payments, Suspension and Termination and Dispute Resolution.

To understand how these clauses and contractual articles are represented in the different contract forms (IFOA, ConsensusDocs 300, AIA C-191 and AIA C-195), a comparative content analysis was conducted. The intent of this content analysis is to verify the findings from the interviews and the survey and further support informed decisions before choosing an agreement for a project. The following section shall analyse and compare the 7 topics mentioned above.

4.3. Content Analysis and Comparative Study

After conducting and analysing the surveys, topics within the agreement that are generally modified by the users were identified as – Expected Cost/ Target Cost/ Estimated Maximum Price, Team Responsibilities, Risk Pool, Changes, Payments, Suspension & Termination, and Dispute Resolution – based upon the frequency of their occurrence in the survey responses. These topics were then studied, and compared between their original representation in the four agreements – Sutter Health's IFOA, ConsensusDocs 300, AIA C-191 and AIA C-195. This comparison has been outlined in the following sections.

4.3.1. Team Responsibilities

Integrated functioning of the teams is crucial to the success of IPD projects, as the PDM's name suggests. In other project delivery methods, teams function independently and are only answerable to the party they are contractually tied to. In case of IPD, most parties are contractually

obligated to each other, which is why each agreement has different tiers of leaderships established that carry out and delegate responsibilities. The comparison of the representation of these tiers in the agreements is illustrated in Table 4. It compares the different contract forms' team responsibilities which is broken down into the Key personnel, Senior Executive team (SET), and Project Management Team (PMT), as well as the responsibilities of the architect and contractor. It is worthy to note that the SET and PMT are sometimes represented in different terms between the different contract forms as shown in the table. Table 4 compares the Key personnel in terms of the how they are being selected (selection process), how they can be replaced or removed (Removal/replacement) and their assigned/assumed responsibility. Similarly, the SET and PMT comparison address specific differences across the different contract forms.

Table 4: Team Responsibilities

Team Responsibilities			
Key Personnel			
	Selection Process	Removal/ Replacement	Responsibility
IFOA	A representative from each party to be Key personnel or 'Principal'	Subject to approval by Core Group	Directing and coordinating the work.
ConsensusDocs 300	The core group shall designate Key Project Personnel.	Subject to approval by Core Group	Unidentified
AIA C-191	A representative from each party to be Key personnel. Can change at different stages of the project	Subject to approval by Project Management Team.	Provide Expert input.
AIA C-195	Agreement does not require appointment of Key Personnel		
Clauses - IFOA: 4.8- 4.10; ConsensusDocs 300: 3.6; AIA C-191: 1.1.3			
Senior Executive Team (SET) / Project Executive Team (PET)			
	Removal/ Replacement	Responsibility	Disagreement
IFOA	Unidentified	Overlook day-to-day activities. Collaborate with the Core group in decision making.	Unidentified

ConsensusDocs 300	All other parties to be notified in writing.	Support and mentor the core group.	All decisions to be unanimous. If not, owner to make final decision.
AIA C-191	Unidentified	Delegate responsibilities to teams.	All decisions to be unanimous. If not, to be pursued with Dispute Resolution Clauses.
AIA C-195	Agreement does not require formation of SET/ PET		
Clauses - IFOA: definitions; ConsensusDocs 300: 3.11; AIA C-191: 2.1			
Project Management Team (PMT) / Core Group/ Governance Board			
	Removal/ Replacement	Responsibility	Disagreement
IFOA	Removal and Replacement subject to Core Group / PMT approval	Coordination, communication and decision making	To be pursued with Dispute Resolution Clauses
ConsensusDocs 300	Removal and Replacement subject to Core Group / PMT approval	Coordination, communication and decision making	Issue to be referred to Senior Executive Team
AIA C-191	Unidentified	Execute PET's directives, personnel and project management	Unidentified
AIA C-195	At the sole discretion of the party removing/ replacing its member	Coordination, communication and decision making	To be pursued with Dispute Resolution Clauses.
Clauses - IFOA: 4; ConsensusDocs 300: 3.1-3.10; AIA C-191: 2.2; AIA C-195:8.2			
Architects' and Contractors' Responsibilities			
IFOA	Part of the main agreement		
ConsensusDocs 300			
AIA C-191			
AIA C-195	Specified in AIA A-195 and AIA B-195		

4.3.1.1. Key Personnel

As shown in Table *4*, IFOA, ConsensusDocs 300 and AIA C-191 observe a 2-tier approach in decision making, while AIA C-195 only asks for the formation of the Project Management Team

(PMT). All agreements except AIA C-195 state the requirement of appointing Key personnel. These personnel participate in coordinating and directing work while utilizing IFOA and provide their expertise at all stages of the project as per AIA C-191. Both IFOA and ConsensusDocs 300 require their removal and replacement be approved by the Core group, and AIA C-191 requires approval from the Project Management Team.

4.3.1.2. Senior Executive Team (SET) / Project Executive Team (PET)

All agreements but AIA C-195 require the formation of SET/PET. Neither IFOA nor AIA C-191 agreements specify procedures for the removal and replacement of SET and PET members. ConsensusDocs 300 informs that all other members of the group shall need to be notified in written before any action is taken. The three agreements allot their responsibilities differently, with IFOA specifying their duties as overlooking day-to-day activities and collaborating with the Core group in decision making; ConsensusDocs 300 states that they are responsible for mentoring and supporting the PMT/Core group, while AIA C-191 holds them responsible for delegating team responsibilities. All agreements have clauses that require the SET/PET to collaborate with the teams and participate in decision making as required. IFOA mentions no protocol in case if there are disagreements with the decisions made by the SET/PET. ConsensusDocs 300 and AIA C-191 require their decisions to be unanimous; if not, the former calls for the owner to pass the final decision, while the latter requires following the Dispute Resolution Procedures.

4.3.1.3. Project Management Team (PMT) / Core Group/ Governance Board

All agreements but AIA C-195 specify the responsibilities of the PMT/ Core Group/ Governance Board as coordination, communication and decision making, whereas the AIA states their responsibility as executing PET's directives and personnel and project management. Their removal and replacement, when using IFOA and ConsensusDocs 300 needs approval from the rest

of the members of the PMT/ Core Group/ Governance Board. AIA C-191 does not specify clauses for the same, whereas AIA C-195 states that the party removing/replacing their member can do it at their sole discretion. When utilizing IFOA and AIA C-195, disagreements with the PMT/ Core Group/ Governance Board need to be followed by Dispute Resolution procedures, while the matter is referred to the SET as stated in ConsensusDocs 300. AIA C-191 does not identify clauses to deal with disagreements.

4.3.1.4. Architects' and Contractors' Responsibilities

The major difference, and a possible cause of issue is while IFOA, ConsensusDocs 300 and AIA C-191 outline the responsibilities of architects and General contractors on the multi-party agreement itself, AIA C-195 lists them in a set of other agreements i.e. A-195 & B-195, which are individual agreements between the owner and contractor, and owner and architect respectively. Contractual Privity may prove to be a potential issue in the AIA C-195 case due to these single-party agreements if disputes and disagreements arise.

4.3.2. Expected Cost, Target Cost and Estimated Maximum Price:

Generally, in IPD agreements, the teams establish their best estimate of the final Actual cost in the very initial stages of the project – usually during a 'Validation phase'. This is then used as a benchmark cost for the rest of the project's duration. The team will further brainstorm upon how this cost can be reduced, and land on a Target Cost. The teams work toward the goal of being within the limits of the Target Cost. Once the drawings have reached a sufficiently advanced stage, an Estimated Maximum Price can be established. This shall be formally amended in writing as work progresses, and the teams shall work together to keep it under the Target Cost. Table 5 compares the Expected Cost, Target Cost and Estimated Maximum Price among the three agreements. It highlights the differences in their establishment and validation.

Table 5: Expected Cost, Target Cost and Estimated Maximum Price

Expected Cost, Target Cost and Estimated Maximum Price		
Expected Cost		
	Establishment	Validation
IFOA	Owner shall establish Expected Cost based on extensive internal procedures	Validation by IPD Team
ConsensusDocs 300	The teams shall use the owner's Program, and Allowable Cost to establish an Expected Cost	Validation by owner
AIA C-191	Shall be in the form of Target Criteria Agreement.	Validation by owner
AIA C-195	Shall be in the form of Target Criteria Agreement.	Validation by owner
Clauses - IFOA: 9.1; ConsensusDocs 300: 5.1.3; AIA C-191: 5, Ex. D; AIA C-195: 5, Ex. E		
Target Cost		
	Establishment	Validation
IFOA	Core Group to establish Target Cost milestone. IPD team to develop a Target Cost.	Validation by Core Group
ConsensusDocs 300	Core Group to establish Target Cost milestone. Core group decides Target Cost development procedure.	Validation by Core Group
AIA C-191	Parties establish the Target Cost as an amendment to the Target Criteria agreement.	Validation by owner
AIA C-195	The Members to jointly develop a Target Cost Proposal.	Validation by owner
Clauses - IFOA: 9.4; ConsensusDocs 300: 6.6.1; AIA C-191:5, Ex. D; AIA C-195:5, Ex. E		
Estimated Maximum Price (EMP)		
	Establishment	Validation
IFOA	Core Group shall establish the EMP	Validation by Core Group
ConsensusDocs 300	Core Group shall establish the EMP	Validation by owner
AIA C-191	EMP to be established as an amendment to Target Cost by filling Exhibit D.	Validation by owner
AIA C-195	EMP to be established as an amendment to Target Cost by filling Exhibit E.	Validation by owner
Clauses - IFOA: 9.10; ConsensusDocs 300: 11; AIA C-191: 5, Ex. D; AIA C-195: 5, Ex. E		

4.3.2.1. Expected Cost (EC)

The above Table 5 shows that establishing the Expected Cost, known as the owner's criteria in the AIA agreements, is important for estimating the funding required for the project. While the Expected Cost is the first step towards estimating it in the IFOA, the expected cost is preceded by the owner's Program in the ConsensusDocs300. The owner themselves establish the Expected Cost in IFOA, whereas while utilizing ConsensusDocs 300 the IPD teams establish it, subject to approval from the owner. Both AIA agreements do not clearly state whose participation is required to estimate the Expected Cost. The owner establishes a preliminary budget for the project in the owner's criteria. The Target Cost for both AIA agreements include Expected Cost, but do not specify how to arrive at it.

4.3.2.2. Target Cost (TC)

The core group, along with the Senior Management Team, shall establish the milestones for Target Cost when using IFOA, which the Core group shall use to land on the Target Cost. ConsensusDocs 300 and AIA C-191 require the parties to jointly develop the Target Cost, Subject to approval by the Core Group. The Target Cost in AIA agreement is also known as Target Criteria Amendment. When utilizing AIA C-195, the parties jointly develop the Target Cost. It shall then be formalized through a Target Cost Proposal developed by the Construction Manager, subject to approval by the owner.

4.3.2.3. Estimated Maximum Price (EMP)

Both IFOA and ConsensusDocs 300 have similar clauses for the execution of the Estimated Maximum Price (EMP), in the form of an EMP Proposal, which shall act as an amendment to the original agreement. The AIA agreements do not explicitly mention the term EMP but allow multiple amends to the Target Cost.

4.3.3. Risk Pool

An integrated approach to the project also includes an integrated approach to risk management. A risk pool brings the parties together to identify the possible risks in the project and fund cost over runs. By collaborating with the Core Group, the parties plan how to fund, administer and disburse the amount in the risk pool account. A detailed comparison of risk pools in the agreements has been set forth below in Table 6 that shows the differences in the Risk Pool plan, account and its members, as reEpresented in the agreements.

Table 6: Risk Pool

Risk Pool			
	Plan	Account	Members
IFOA	This shall include a plan for funding, administering and disbursing the IPD Team Risk Pool Account	A portion of Profit payable to the Risk Pool Members to be added to the escrow account	The members shall initially be the architect and contractor. Additional members shall be added as deemed necessary.
ConsensusDocs 300	Shall identify the risk pool members, amounts in the risk pool, each member's interest, conditions of satisfaction, plan for funding, administering and disbursing, retainage if any, other terms and conditions.	It is the collective pool of profits put at risk by the members to address cost overruns.	
AIA C-191	No distinct risk pool account is created to address cost overruns. A Recovery Plan to be created in case of overruns	No clause	The Recovery Plan shall be used as a basis for establishing Target Cost alterations by all other parties
AIA C-195	No distinct risk pool account is created to address cost overruns. But the contractor shall create and periodically update a Risk Matrix	No clause	The risk matrix, created by the contractor and updated by the construction manager, shall be used as a basis for establishing Target

			Cost contingencies by all other parties
Clauses - IFOA: 14; ConsensusDocs 300: 10; AIA C-191: 5.4.2, Ex. D; AIA C-195: 5.2.3			

4.3.3.1. Risk Pool and its Members

As seen in Table 6, Risk pool is only created by the teams utilizing IFOA and ConsensusDocs 300. The architect and contractor are always a part of the risk pool, but the teams identify additional members who shall be a part of the Risk Pool, based on the study of the project. Parties whose scope of work involves risk that could lead to substantial cost overruns, that can highly impact the Target Cost, are made a part of this pool.

4.3.3.2. Risk Pool Account

A bank account is created and a portion of the profits payable to the pool members is added into it based upon the calculation of the potential overrun that can be caused. The amount in this account is used to deal with unexpected costs due to risks, as long as one or more of the members within the risk pool is liable for them. Expenses caused by teams who are not a part of the pool shall not be incurred through this account. This is done only for IFOA and ConsensusDocs 300, and for neither of the AIA agreements.

4.3.3.3. AIA Agreements

Both the AIA agreements do not include a risk pool. Instead, the AIA C-195 requires the contractor to create and the Construction Manager to keep updating a Risk Matrix, which highlights the imminent risks in the project and the party primarily responsible to manage it. All parties are to use this Matrix as a basis to set their Target Cost contingencies. AIA C-191 required the creation of the recovery plan after the target cost has been exceeded, in an effort to control and curb expenses and try to keep the project within target cost.

4.3.4. Changes

Changes in work are a major cause of a 'domino' effect of consequences in any construction project. If planned or executed incorrectly, they can lead to time and cost overruns, and can have an impact on all the topics mentioned in Section 4.3. All four agreements state Change as additions or adjustment to work within the scope of the agreement that may lead to a change in Expected Cost and/ or Contract Time. The clauses Benchmarks and Claims for this topic have been compared in Table 7 as follows.

Table 7: Changes in Work

Changes in Work		
	Benchmark Changes	Claim procedures
IFOA	Owner directed Design changes and Quality Enhancement; Changes in Law after agreement date; Unforeseen site conditions; Compensable delays; omissions by the owner; damage by fire or unavoidable causes.	As required by 'Dispute Resolution' clauses
ConsensusDocs 300	Owner directed Design changes and Quality Enhancement; Changes in Law after agreement date; Unforeseen site conditions; escalation; other expressly provided reasons.	The party to inform the Core group about its intent to claim within 14 days of the Change Order.
AIA C-191	Anything that may affect the owner's Budget or owner's ability to fund the project	Owner to provide information on disagreements and potential claims in the owner's directive.
AIA C-195	Natural or Man-made disasters; Changes in Law after agreement date; Unforeseen site conditions.	As required by 'Dispute Resolution' clauses
Clauses - IFOA: 24; ConsensusDocs 300: 15; AIA C-191: A.3, Ex. D; AIA C-295: 9		

4.3.4.1. Benchmark Changes

As seen in Table 7 IFOA and ConsensusDocs 300 agreements also outline in detail the acceptable causes for changes, whereas, AIA agreements don't- C-191 benchmarks changes as

anything that could affect the owner's ability to fund the project, whereas AIA C-195 only states Force Majeure as an acceptable cause of change.

4.3.4.2. Claims Procedure

In case of disagreements, the IFOA and AIA C-195 contain clauses that ask the user to follow the steps of Dispute Resolution. AIA C-191 relies on the owner to specify the process in the owner's Directive; and ConsensusDocs 300 outlines the process of filing claims by stating that the affected party(s) shall inform the Core Group about its intent to claim within 14 days of the Change Order.

4.3.5. Payments

Payments are vital to the smooth functioning of project and the organizations participating in them. They are divided into Progress payments, made at intervals during the project, and the Final payment, made at the completion of the project. The format of payments in all four agreements is quite uniform, with minor differences. All payment procedures begin with the Schedule of values. Based on this, all parties are expected to file payment applications on a decided date of the month. The following Table 8 highlights the comparison between these two, and all their supporting activities.

Table 8: Payments

Payments					
	Application	Progress Payments	Final Payments	Waiver of liens	Failure to Pay
IFOA	Core group to review application draft made by the architect and contractor. Once approved,	Payments shall be made within 10 days of applicatio	Final Payment shall be made within 30 days after the reception of the application and	Unidentified	Contractor may stop work till paid upon notice of 7 more days to the core

	parties shall file a formal application.	n reception.	supporting documents.		group. This shall lead to the Contract time being extended and the owner shall pay the contractor costs that occur due to stoppage.
ConsensusDocs 300	The application shall be reviewed for compliance before approval – who approves it is unidentified.	Payments shall be made on the specified date of the month for the preceding 30 days.	The Core group shall review the Final Payment application within 15 days of reception. The owner shall make the final payment within 7 days of receiving the notice of approval from the Core group.	Any liens filed shall be removed within 30 days of filing if the owner makes payments in the required time.	
AIA C-191	The application shall be reviewed by the PMT for compliance before approval.	Payments shall be made on a monthly basis for the preceding 30 days.	Unidentified date/ time frame to make final payment.	A statement for lien removal shall be provided within 5 days of payment made in the required time.	
AIA C-195	The contractor shall file a formal payment application on a specified date of the month, for review by the architect. The architect shall file invoices for their services provided.	Payments shall be made on the specified date of the month for the preceding 30 days.		Unidentified	Unidentified
Clauses - IFOA: 28,30; ConsensusDocs 300: 9,16; AIA C-191: A.12, Ex. D; AIA A-195: 5; B-195: 4, Ex. E					

4.3.5.1. Payment Application

Table 8 shows that payment applications are then reviewed, and either returned for revision, or the dues are paid if found to be accurate. IFOA stands apart from the other three agreements in terms of Payment applications – It contains a clause where parties collaborate with the Core Group to file an initial draft of the application, before filing an official one. AIA C-191 states that the PMT shall be responsible for reviewing the payment applications, while ConsensusDocs 300 and AIA C195 do not identify who reviews them.

4.3.5.2. Progress and Final Payments

The progress payments shall be made within a specific period of receiving the application, or on the specific day of the month, and shall exclude retainage, and any other amounts as decided in the agreement. ConsensusDocs 300 and both AIA agreements give the owner a span of 30 days to pay all parties, whereas IFOA provides a span of 10 days upon the approval of payment application.

4.3.5.3. Failure to Pay

All agreements, except AIA C-191, state that the parties are free to stop work until paid by providing a 7-day notice. AIA C-191 does not identify a procedure in case of the Owner's failure to pay.

4.3.5.4. Lien Waivers

Upon payment, ConsensusDocs 300 and AIA C-191 instruct parties to waive any liens within 30 and 5 days of receiving payment respectively. IFOA and AIA C-195 do not outline clauses regarding this.

4.3.6. Suspension and Termination

Termination is the permanent closure of the agreement and the departure of all or some parties from the project. Suspension brings a temporary halt to work but may eventually lead to termination of the agreement if the parties find it unfeasible to stay bound to it while the project is suspended. Both these situations can occur due to numerous reasons. The following Table 9 elaborates upon the potential causes of Terminations and Suspensions, and how the agreements instruct the parties to act through them.

Table 9: Suspension and Termination

Suspension and Termination	
	Notice to Default – Actions to be taken
IFOA	A meeting shall be scheduled within 7 days of the provision of the notice. The defaulting party shall be provided a reasonable amount of time to correct their default ranging from 7 days or more after the meeting.
ConsensusDocs 300	A meeting shall be scheduled within 24 hours of the provision of the notice, to decide a recovery plan.
AIA C-191	Parties shall meet within 10 days of notice of default to discuss a remedy plan.
AIA C-195	The owner, upon certification by then initial decision maker, shall provide a 7-day Notice of Default to the contractor. Then he shall seize all their equipment and material, accept their subcontractors and complete the work through a reasonable method.
Termination by Architect/ Contractor	
	Suspension duration
IFOA	For a cumulative 90 days within a 12-month period
ConsensusDocs 300	More than 60 days through no fault of architect/ contractor
AIA C-191	For 30 consecutive days or more than 120 days within a 12-month period
AIA C-195	For a cumulative 90 days for the architect, 30 days for the contractor within a 12-month period
Clauses - IFOA: 39; ConsensusDocs 300: 17; AIA C-191: 10, Ex. D; AIA A-195: 10; B-195: 6	

4.3.6.1. Notice to Default – Actions to be taken

As seen in the Table 9 above in all cases, the owner shall give the parties, Notice of Default. IFOA and AIA C-191 specify the minimum duration for this, but ConsensusDocs 300 and AIA C-

195 do not. Another point of difference is at the three former agreements contain clauses that allow a chance for the defaulting party to mend their defaults by creating a recovery plan; but AIA C-195 does not. If the party cannot rectify its defaults within the period decided during the recovery plan, the owner may terminate the agreement with them with the necessary notice period. This termination shall require the owner to pay the defaulting party all cost of work and their accumulated incentives till the date of termination. IFOA allows the terminated party to seek further compensation, if the reason for their termination is deemed unjustified through dispute resolution measures.

4.3.6.2. Termination by Architect or Contractor

If the duration of suspension by the owner exceeds that mentioned in the agreements, it shall count as owner's default, and the parties are free to terminate the agreement and demand compensation. While all agreements specify a time period of cumulative and/or consecutive days, ConsensusDocs 300 fails to identify whether the 60 days are cumulative or consecutive.

4.3.7. Dispute Resolution

Disagreements occur in all construction projects. Each team with their special set of expertise may have a difference in ideas. Contract terminology heavily influences how much a disagreement can escalate –will it rise to the degree of a dispute, or be resolved at early stages? If risen, will it be solved at an internal level, or must be pursued with Arbitration and Litigation? It is a well-known fact that IPD heavily promotes not resorting to external methods of settling disputes in order to save time, expenses and team relationships. The following comparison in Table 10 dwells more into the dispute resolution methodology in the four studied agreements, and compares the levels of dispute resolution, starting from Notice to claim to Negotiation, Mediation, Arbitration and Litigation.

Table 10: Dispute Resolution

Dispute Resolution					
	Notice to Claim	Negotiation	Mediation	Arbitration	Litigation
IFOA	To be made to the core group within 14 days of event	-Meet with owner, architect and contractor -Meet with Core Group -Meet with SET and Core Group -Time frame unidentified	To be held if dispute isn't resolved within 7 days of negotiation meeting	Unidentified	Parties are free to approach legal or equitable entities only if all previous methods fail.
Consensus Docs 300	Unidentified	The core group to reach a decision within 5 Business days of their 1st meeting	Unidentified	Approach American Arbitration Association if mediation is unsuccessful.	Litigation can only take place in a federal court, or a state court having jurisdiction on the matter.
AIA C-191	To be made if PET fails to solve the issue internally. Duration not specified.	It shall be taken up with the Dispute Resolution Committee. The committee shall meet within 15 days of the dispute initiation.	The Project Neutral to act as a mediator and follow AAA's Construction Industry Mediation Procedures. Time frame unidentified	Unidentified	The agreement further allows to add clauses for litigation.
AIA C-195	Unidentified	The governance Board shall confer on the dispute within 15 days of the receipt of Notice to Claims and decide on a mutually agreed solution within 30 days or receiving a	Unidentified	Dispute Resolution Committee, presided over by a project neutral to deliver a binding decision.	Unidentified

		written notice of claim/dispute			
Clauses - IFOA: 14; ConsensusDocs 300: 10; AIA C-191: 8, Ex. D; AIA C-195: 12					

Given that IPD currently is primarily applied on complex construction projects, claims and/or disputes are not uncommon occurrences (Table 10). The survey results state that most of them get solved on an internal level and rarely escalate to the level of Arbitration and Litigation. All the four agreements make step by step provisions for how these claims and disputes can be resolved.

4.3.7.1. Notice to Claim

Table 10 denotes that while ConsensusDocs 300 and both AIA do not identify a notice period for claims, it spans at 14 days after the event for IFOA users and only mentions that the PET shall first attempt to solve the issue internally after the notice has been received.

4.3.7.2. Negotiation

The IFOA allows multiple attempts at negotiation – first through a meeting with the architect and contractor, then with the Core group, and finally with the SET. A time period for these meetings has not been specified. The ConsensusDocs 300 states that the Core Group can hold multiple negotiation meetings but is required to pass a non-binding decision within 5 working days from the first meet. AIA C-191 contains clauses that direct the disputing party(s) to take the issue up with the Dispute Resolution Committee. The committee is expected to hold a meeting within 15 days of dispute initiation. For AIA C-195 users, the Governance Board confers upon the dispute within 15 days of receiving the notice of Claims, and reaches a decision mutually agreed upon within 30 days of its reception.

4.3.7.3. Mediation

ConsensusDocs 300 and AIA C-195 do not identify clauses for Mediation. IFOA allows mediation if Negotiations fail, within 7 days of the negotiation decision deadline. While a mediation time frame is unidentified in AIA C-191, a project neutral follows American Arbitration Association's procedure to mediate the dispute.

4.3.7.4. Arbitration

IFOA and AIA C-191 do not identify clauses for Arbitration. ConsensusDocs 300 directs the disputing party to approach American Arbitration Association to commence proceedings, while AIA C-195 depends upon the Dispute Resolution Committee, presided over by the Project Neutral to deliver a binding decision.

4.3.7.5. Litigation

Users of IFOA and ConsensusDocs 300 may approach the Court of Law to begin litigation procedures. AIA C-191 does not identify specific clauses for litigation but does leave room for contract modification. AIA C-195 does not identify clauses for litigation.

Chapter 5 – Conclusion, Limitations and Future Research

5.1. Conclusion

The objectives of this study were to theoretically and empirically explore a) Clauses in the agreements that require modification; b) Clauses in the agreements that have commonly led to disputes c) A comparison between these clauses as represented in Sutter Health's IFOA, ConsensusDocs 300, and AIA agreements for IPD; d) Effects of multi-party agreements on contractual privity during disputes; e) Mitigation strategies used to avoid and wade through risks. The data was collected through a combination of interview, surveys and comparative content analysis. The overall summary of findings can be seen in Figure 9.

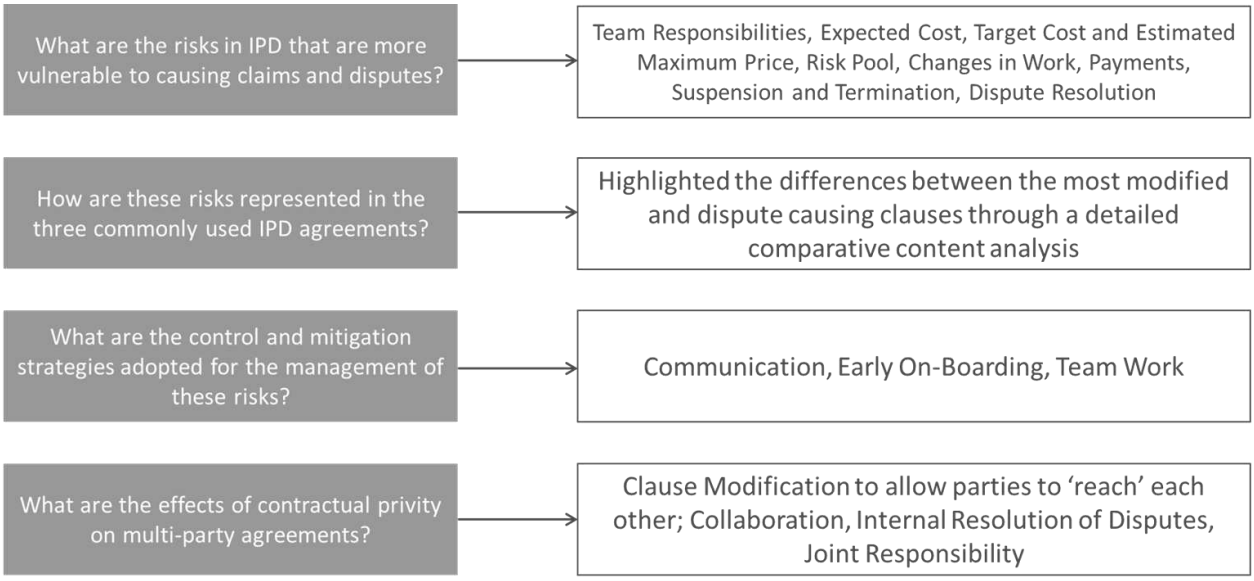

Figure 9: Research Findings

Upon conducting pilot interviews and electronic surveys, it was established that Team Responsibilities, Expected Cost, Target Cost, Estimated Maximum Price, Risk Pool, Changes, Payments, Suspension and Termination and Dispute Resolution were the most commonly

modified clauses in the agreements. The causes of most disputes that occurred on the IPD projects worked on by the interview and survey participants also lie within these clauses.

On doing a comparative study the agreements, it was discovered that while most clauses were represented similarly in the agreements, there lie numerous differences within sub-clauses that are capable of having a substantial impact on the overall functioning of the project teams. AIA agreements have a completely different risk structure as compared to IFOA and ConsensusDocs 300, devoid of the concept of a Risk Pool account. As pointed out in the literature survey in Chapter 2, there is negligible information on the comparison of Agreements for IPD. This comparative analysis illuminated the comparison between the risk structures of the four IPD agreements.

The interviews established that general counsels allow the addition of special clauses to agreements to make it possible for teams to 'reach' each other in case of disputes, tackling the possible issue with contractual privity if a dispute required litigation. Through all stages of the research methodology, it was uniformly visible that the participants are required to wholly adopt the key principles of IPD, Integration, communication, early on-boarding, collaboration and teamwork, which are vital in risk mitigation, as well as dispute avoidance and resolution, in-turn mooting contractual privity. This obviously proved highly successful since none of the survey respondents' dispute experience escalated to the point of requiring litigation.

This study begins shed light on areas of research that haven't been explored at all, such the comparison in between the various widely used IPD agreements with each other to point the differences between the representation of crucial clauses. It establishes a link in between contractual privity and IPD agreements and the effects of the former on the latter, on which research does not exist. It brings forth the involvement of the core IPD principles in risk mitigation

strategies devised by companies on their projects. This study can be used by industry professionals new to IPD to assist them in choosing an agreement for their project. It can also be used by academic scholars and researchers as a basis for future research, some suggestions for which have been written in Section 5.3.

5.2. Limitations

One of the biggest limitations of this research is the small number of respondents. The responses were uneven in terms of the agreement utilized by the respondents – The interviewees had experience only with ConsensusDocs 300 and AIA C-191, while more than half of the survey participants had worked only with AIA C-191. Because of this, the results obtained cannot be generalized. It was observed that the structuring of the agreements into separate single party agreements may cause issues with contractual privity, the very problem multi-party agreements try to eliminate. But, since none of the respondents worked with AIA C-195, no concrete conclusions could be drawn about its use. Another major drawback was that the agreements are not tested enough in the Court of Law for a strong research to be established. This proved to be a hindrance in the study of the effect of multi-party agreements on contractual privity and reaching a solid conclusion, as contractual privity only comes into play when litigation is involved.

5.3. Future Research

Based upon this comprehensive study of the four agreements Sutter Health's IFOA, ConsensusDocs 300, and AIA agreements for IPD, future research can be concentrated upon case studies of Projects along with the specific agreements used for them, to additionally understand their application and outcomes in IPD projects. Emphasis needs to be laid on AIA C-195 to understand the lack of its use and the possible reasons behind it. Light can be shed on Litigation

trends in IPD in the further future, to analyze the effect of multi-party agreements on contractual privity, when a larger number of documented litigation cases in IPD are available for study.

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APPENDIX A – Interview Questionnaire

The objective of this interview is to gather and analyze data about risks in Integrated Project Delivery projects. It intends to (1) Identify the risks in IPD that are most likely to cause disputes; (2) Analyze how these risk profiles are represented similarly/ differently in Sutter Health's IFOA, ConsensusDocs 300, and AIA Contracts for IPD; (3) Understand and convey how contractual privity is affected by multi- party contract, and how it plays differently in the presence of the three abovementioned contracts. The following interview will be recorded. Your responses will be a part of the data collected for my research "Risk Profiles and Contractual Privity in Integrated Project Delivery."

Agency:

Interviewee(s):

Time & Date:

General

1. Please describe your overall experience in Construction Dispute resolution, Dispute Resolution in and Integrated Project Delivery (IPD).

Disputes

2. Have you noticed any emerging patterns in the causes of disputes in IPD? Explain.

3. Is there a pattern in the particular teams these disputes occur between? Explain.

Contracts

4. What are the major points of difference between Sutter Health's IFOA, ConsensusDocs 300 and AIA's Multi-Party agreement? For instance, AIA contracts have a Multi-party agreement, as well as individual single-party agreements, that ConsensusDocs 300, and IFOA do not.

5. How do you perceive the difference in risk profiling in the Sutter Health's IFOA, ConsensusDocs 300 and AIA's Multi-Party agreement? For instance, IFOA and ConsensusDocs 300 have the concept of 'risk pool' introduced in them, whereas AIA multi-party agreement does not have such an arrangement.

6. Which of the three contracts according to you, gets utilized more frequently? Why?

7. Does the presence or absence of a risk pool affect the vulnerability of a project to disputes?

8. Unlike IFOA and ConsensusDocs, AIA contracts include the concepts of Project Alliances, Relational Contracts and Single Purpose Entity. How do these provisions individually affect a project?

9. Based on their risk profile clauses, is there any particular contract that you recommend owners, Architects, contractors and Sub-contractors to choose for their IPD projects? Why?

10. Upon selection as the contract of choice for a particular project, how are the three contracts being modified and tailored to suit the requirements of that project? Are there common aspects that are being focused upon?

Contractual Privity

11. How do multi-party agreements affect contractual privity, as compared to the singleparty agreements in other PDMs?

12. How do the different formats of the three agreements affect the overall effect of contractual privity on the dispute resolution outcome?

13. Sub-contractors, who as per various researchers are the biggest beneficiaries of privity, have still been left out of IFOA, but included in AIA Contract and ConsensusDocs 300. Does this lead to owners preferring to apply these two contracts over the IFOA?

14. AIA contracts for IPD also have single party contracts to be signed between the owner architect and owner-contractor, apart from the multi- party agreements. How does this arrangement work in case of disputes and privity?

Mitigation Strategies

15. What are the mitigation strategies that you recommend the owners, architects, contractors and sub-contractors use in order to tackle contractual privity in the presence of multi-party IPD agreements?

APPENDIX B – Interview Transcript

B.1. Interview 1

Q: Describe your overall experience with construction, dispute resolution, and dispute resolution in IPD.

A: I am the general counsel for ‘X’. Corporate counsel was my title when I first started, but I've been in this role with ‘X’ for 12 years. I deal with any of our disputes that rise to the level of needing legal help. ‘X’ is very relationship based. Most of our disputes get resolved at a project level, and the teams negotiate them out based on kind of whatever's fair. But if they come to a legal level, then I handle them. And before I came here, I was a construction defect lawyer in a, in a boutique law firm out in Washington DC. And before that I was an in-house claims lawyer for a subcontractor. I have a fair amount of experience with just dispute resolution in general. In IPD I'm kind of happy to say I don't have any dispute resolution experience. Because we haven't gotten into any disputes where the IPD contract was triggered on our jobs. The first job we did under IPD, there was a claim from a subcontractor, but that sub was not party to the agreement and it was a dispute about delay and just some of the normal construction impact and delay. And it was resolved based on more on notice provisions and reasonable discussion than it really was based on the contract itself because they weren't a party to the contract.

Q: Which agreements were used on the IPD Projects, and how were they modified?

A: We've done two IPD contracts. The first contract we did was I was back in 2014. That contract was stemmed from the owner's rep. The owner's rep on that contract was ‘Z’. They recommended that we do an IPD contract because we had the same team that we had when they built children's

hospital. The new hospital was done sometime in the 2005, and they had the same parties as they had for the East tower. ‘X’ was joined with ‘Y’; ‘X’, ‘Y’, a joint venture was the general was the contractor. The architect was ‘H’ and they were joined with ‘A’ and then the owner, then ‘O’ as the owner. And then they were doing the new contract or the new East tower project, because of that relationship, ‘Z’ suggested the ConsensusDocs IPD contract under the concept that it would create better cooperation and hopefully streamline the process and save the owner money. I helped negotiate the contract as part of the whole team of everyone. There was a representative for ‘X’, someone from ‘Y’, our project executive, the project executive for ‘Y’. There was a lawyer from Texas that was from’ Z’ that kind of acted as the owner's rep, plus two individuals from ‘Z’. They had their lawyer and then they had the project exec, and the owner had the owner and their lawyer, and an outside lawyer from ‘KR’. ‘A’ had one of their principles, ‘H’ had one of their principles, so there was a big room of people. We'd all worked together before and we thought, oh, this'll be a piece of cake. What ended up happening is they sent out the contract and everyone just started putting in their two sets, and the lawyer from ‘Z’ was just plugging information, which, as I would go through it and read it and talk to Doug, who was the gentleman from ‘Y’, we were realizing pretty quickly that just plugging everyone's comments into the contract was just creating a contract that didn't make a lot of sense.

But what we ended up with was a hybrid between what is really a ConsensusDocs and AIA kind of smooshed together. I mean, they were relying more on their relationship. And that's why I mentioned to you in the email, but. That's why I am of the opinion that any of these documents can actually fit any project team because you change them to match the relationships of the team. And what I pushed with the guys on the second one is that the relationship is what matters. And then it's the lawyer's job to make sure that the business deal and the relationship is put down on

paper appropriately. So, the two documents, the ConsensusDocs that we worked with the first time, and the AIA doc that we worked with the second time, have some distinct differences. But they also are, are both in both of our projects. They're heavily modified. They're modified more to what the business deal was. Cause what I find is the people who go out to make the business deal aren't necessarily doing it with a particular contract in mind. Yeah. They get a contract recommendation from a lawyer after the business deal is already made.

And both contracts are intended to be signed, like day one. The ConsensusDocs, when we did the East tower took 10 months to negotiate, mostly because there was a lot of people in the room. Everyone has their own impression, all their lawyers weighed in and they brought in comments and then this lawyer plugged everything into the contract and four or five minutes in, you read the contract and go the contract doesn't make sense anymore. Then I sat down with the lawyer from 'KR' and we started going through it and saying, okay, these concepts don't match. We must change this. We kind of made it into a document that worked together.

But there is still some, there's significant modification because people just aren't comfortable with truly sharing each other's risk. You know, we talk about it like they're sharing each other's risks. We're all in this together. We're all going to share in the costs. Well, that's one thing when you're talking about project cost, you know, the cost of installing this or the cost of redesigning that, it's very different when you start talking about long-term liability. And so that's where people start to get nervous. So, it ended up heavily modified. So that was the first one on the 'X'. Then the second time, which we're working on right now, they wanted to use IPD. They liked the big room concept and they liked a lot of the IPD principles, and they wanted to use that methodology, but there were a lot more parties. And at that point there again when the document, when the job came out for proposal, it had the AIA-191 document with it. That's the one we negotiated on the second one,

they asked for comments on it and most people had very few. So, everybody proposed, everybody said how their fee structure would work. Everyone put in all that information and then you sit down and try to plug what the business deal is into the contract. And at that time, it took, it didn't take 10 months, but it took us about, I bet six, seven months to get the job, to get the contract done. By that time, some of the contract concepts are kind of moot because those pieces are done. Yeah. You know, you're past that part in the job, so I always stress that it really is the relationship that governs it. You, you would think, or you would hope that the contract framework would, or I guess people have the impression that the contract framework governs the relationship.

And to some extent it does, but if you don't have, it should set the stage. But the reality is if you don't have that relationship, a contract's not going to put it there because you know, most of the people sitting in the, this is, , this is a little bit my experience and it's also a little bit my bias, but most of the people sitting in that big room have not read this document.

Q. How were their Risk structures different, and how was this handled?

I mean, these are complicated. Do you know, their risk structures are different things? IPD, regardless of what contract you're under, you have to have a, a team that's committed to the, , to being able to interact that way, to taking other people's, , kind of perspectives and their ideas and vetting them and that sort of thing. X is a company that works hard to work with our owners and our owner's reps and our architects, and we always are collaborative that way. The concept of truly being on the same contractual plane where no one's really in charge. That's tough.

IPD becomes really tough for people to kind of wrap their heads around. And because these documents are so untested in the courts, it's hard to even advise. The general contractor is used to taking instruction from the designer as to design. So, when a problem does come up and the, and

the expectation is the general contractor weighs in on design, or the expectation is that the sub is equal to us in privity. So how do you now give orders. We even had, and just the normal project structure of who's in charge of what.

Q: Have you noticed any emerging patterns in the causes of disputes in IPD?

A: You know, I haven't, but that's in part because I haven't, I haven't studied the disputes. I have yet to. I have, I've yet to see any cases like actual litigation or stuff where this is where more the disputes are being handled. Part of the challenge in most IPD contracts, you're going to see mediation and arbitration clauses. You just, you work it out in the mediation, you agree, and you have a settlement that goes away and they're normally confidential. There is a decision maker, the arbitrator is going to decide, but the reality is those also aren't published. So there's no way to know if there's, if there's 15 arbitrations going on across the country, I would have no way to know that. , and here in Colorado, I haven't heard of any. , there's other projects other than our projects going on in an IPD setting, but I haven't heard of any disputes in those situations that weren't just worked out. In a room like this with the people communicating. I don't sit in the big room, so I can't really answer that. Nothing has come to my level. Nothing has gotten on our first one, like I said, there was a, there was an actual claim filed by a subcontractor. But it was not, they weren't a party to the contract because in that one, it was just the three parties, they weren't a party to the contract, and I'm not even sure.

Because the Consensusdocs has the concept of adding parties or having some type of sub tier separate agreements. 'Y' just used a regular contract. They were the managing party. Everybody was under their subcontract agreements. In that instance, the sub-contractor dispute got resolved under. Their contract provisions under a normal, traditional, in a traditional way. The

failure of their people to provide notices and they, they worked it out just like they would in any other contract. There wasn't a dispute under the IPD contract that I saw. For these types of claims or these types of contracts. I mean, you really do need a team that is open to this concept of collaboration. And if you have a lot of that's personality based, you know, if you have people who are, let's say, traditional construction, to instruction guys who are used to being in charge and are going to enforce kind of their authority. They're probably not the right person for this team. And I think in that instance you would see more disputes because the concept here is really that collaboration concept. You need people whose personalities fit that concept, who are willing to listen to other people who aren't going to throw their weight around too much and who understand we're all in this together, like we succeed, or we fail as a team. That is not always so easy to find. That's because it's been going on for centuries now

One of the other big things with IPD is you must have people who are willing to make decisions and willing to give their opinion. If everybody takes a back seat and says, well, this isn't, you know, that's not my role. I'm not. I supposed to be weighing in on that. You can't function. You must have, when you must have an engaged owner, you have to have engaged personnel from all everybody involved to really make it work. And, and to some extent, you also do have to have someone, you must, people who are willing to defer to expertise. Everybody can give advice and weigh in, but you still need some deference to the X. Yeah. The make the final decision. Even though we are all on the same playing field. As far as trends, I haven't seen a lot of trends because we only have two jobs and I haven't seen any problems. But I do think that there is that in the background. I mean, if you get the wrong team in there, you will see more disputes.

Q: how do you perceive the risk profiling in the AIA multi-party agreement?

A: From a general perspective, I think that the risk profile is appropriate. I think where it becomes difficult is with people's comfort level with it. I don't really have a preference of one of them over the other from that perspective. From the risk profile perspective, I do think that it's important in the AIA document to add a limitation of liability. It makes everyone more comfortable with where the project is going. It's difficult for owners because they're used to having unlimited liability. But if you're going to go into a, to this framework, I think it's important to have that limitation and this, and the AIA doesn't contemplate that necessarily. They have some limitations on different things. You know, how you can sue each other, but they don't, it doesn't actually include a limitation of liability. From a risk perspective when you're getting to the point of having multiple parties all at the same level, the issue of contractual privity really does become a problem. For example, I'm the parent of a child who has gotten an infection. I think it's because of the HVAC system. Well, when I go, when my lawyer goes and they find the contracts for how you've built the HVAC system, there are all these parties involved. They are almost certain to sue everybody on the contract. Well, that creates, I mean, there is a. There's a risk that's inherent there from a legal, even just a defence cost perspective. I mean, if I'm the dry Waller, I might've just got sued for the HVAC system, and even though I don't have any responsibility for that, I have contractual privity and they're going to sue me anyway. And now I have defence costs and I'm triggering my insurance. From a risk profile perspective, the more people you include in the agreement, the more you run the risk of getting sued for something that you really had nothing to do with, but your name is on the contract. The biggest issue, I think with the multi-party is just there so many people that you could have something completely unrelated that you end up with associated. You might not get real liability, but you have costs.

Q: But do you think that's one of the bigger reasons why people are not adopting the contract in?

A: I think that they're not adopting the contract because out of the unknown of how it would get interpreted. But yeah, I do. I actually think that the, that the contractual privity that's set up, the more people you have, you know, contract general contractors and architects are used to being the targets for that sort of thing, but when you start getting down to subcontractors, they're not used to getting sued for someone else's scope, and that's, that is a real risk to them versus the general contractor. I mean, I'm in charge arguably, of everything. As someone other than the GC. Wrapping your head about being responsible for a mistake someone else made is a tough thing to get past the partners that you're letting in. It's important that you have that level of trust with those partners.

One of the things that we talked about in the, when we were negotiating the contract is that the partners are so important. Who you let in is important. Making sure that who you let in has the ability to actually impact the job. And then there are some people that if they fail. You have a serious problem with the building, or you have a serious problem with the schedule or whatever, I think you got to bring them in.

Q: For the AIA do you think the presence or absence of a risk pool would affect the one or ability of a project to dispute?

A: I think it's an important concept because the project must have somewhere for the money to come from. I do think you need that, that kind of risk pool where you have money. To compensate people for things that might not be their issue but are beneficial to the job because it's cheaper to have you fix it. Then you fix it.

Q: Don't you think that people would object? Suppose if you are one team, I am on team and all these guys are, and we've pooled in some money in the risk pool, and if everybody except you and I mess up. But we're losing our money too. Don't you think that we have a problem with that?

A: I think, I suspect there are instances where they do, I mean, people, that's part of this whole, 'we're all in it together' concept. I do think that if one person is using half the risk pool up and we're not getting that incentive, there probably are people that get irritated by that. But that is truly the concept of IPD. And I think you must manage around that, facilitate if it's truly something that they just keep screwing up and they're using all this stuff, I think in that instance you're going to have the risk group, you're going to have your team come together and you're going to have to address that and say what is going on? We have never said anything about the risk pool being allocated. We've always kept it altogether.

Q: AIA contracts include concepts of project alliances and relational contracts and single purpose entity. So how are they different from each other and what is the individual effect that they have on the project?

So the relational contracts - when you pull in other team members that aren't part of the main contract, the concept is a good one because it's a way to kind of give people who might not be part of your main IPD from day one, but you can kind of give them some, some skin in the game? You can bring them in and say, you can share in the risk pool or you can share in this based on these things, but we have not used them and I'm not super familiar with them

AIA C-195- Everybody's in the company and everyone is an actual owner of the project because they're all in this single purpose entity. , single purpose entities also can protect the, all of the parties from their company having liability because, you know, if there's an LLC created, then the

money in the LLC is what pays any claims that come up so it can protect from liability on the outside. We have never used any of those things in an IPD setting. I think single purpose entity specifically would depend on your team and it would depend on your project. It is a completely different legal framework. Then you've taken your big room concept and you've made it a legal entity, and so that entity is going to get run by the executives of that entity and it's going to be self-contained. So, you're really an owner at that point rather than a company participating.

I don't think, I mean, I don't know that I think it would really change the interaction of the team. But it does change the, the liability side, which could be a good thing. You know, you're then, or you're insuring it separately. You're protecting your company from that entity and you were comfortable with that ownership status. It could really be a benefit and make people more comfortable with the total package. The other thing is from an insurance perspective- it would take away some of this issue of design and, in construction insurance because the entity would buy both. And it would protect everyone within the entity. But it's a different level of sophistication to, cause you're going to go file with the state. Somebody has got to do the tax returns and all that kind of stuff. The concept is. You create the entity, it contracts with the architect, then it contracts with the contractor. Your entity becomes the, the owner in this group and then they have, then they assign duties to the architect and then they assigned duties to the contractor. So I think that's how that, yeah, that's how they, and it's, my guess is, and I have not read these, but my guess is these are more. , the division of, of who does what and in this, , in the AIA, in the basic AIA document, just the multi-party agreement, there is delineation of here's what the architect does, here's what the contractor does.

, it creates some liability issues.

Q: Between, the AIA and the consensus docs, and based on their respective risk profile clauses, , would you recommend one or the other?

A: The ConsensusDocs has a, I think, a strong risk profile. It is written a little better for risk. it has the safe Harbour provisions. It has the concept of a limitation of liability and when that is, so I do think that one is a bit better from that perspective. However, the consensus docs are a, are an entirely different. Library of documents and in our market, AIA documents are more common. I would rather take an AIA document and modify it and add the risk concepts and the risk protections that we need because my teams that are working, the actual project teams are much more familiar with the concepts behind an AIA. Okay. They, you know, the, the, , the language is more common.

Q: Ease of Use

A: AIA documents are a little easier to work with. The consensus docs are, it sounds silly, but from a practical perspective, the consensus docs software is a pain. And again, this is a practical perspective because I'm the one that physically creates them. The AI document is hugely annoying because there are all of these exhibits that have to go in and they're all created separately. It's, it's almost ludicrous actually and you must put in all of those separately. All of them are created in the system separately, and they create their own PDFs. Now, the concept of the document is that you would create the first.

Q. Upon selection for a project have you gone for specific clauses that need to be modified or specific sections that you feel are not like completely up to the mark?

A: The problem in general is that the document's fine as far as I'm concerned. I'm adamant that that you do for this sort of project, you need a limitation of liability. So that is one I would go after

a total out-of-pocket limitation of liability. But then beyond that, as far as what we change. It really depends on how the business deal has been set up. We had to make modifications for payment

Q. Privity:

The importance of privity of contract is the fact that that's the lines that get followed in the case of litigation.? So typically, I have privity with a sub and owner, unless there's language in there that says an owner is a third-party beneficiary. There are ways to create, you know, kind of create privity almost, or create beneficiary status. But typically to get to my sub, the owner must sue me. And then it comes down from there to get to the architect, I must sue the owner so that it goes to the architect.

This does take that away. But the good thing about it is it also usually takes away those cross claims because we waive claims against each other as to the things within that. So even though we're all on one contract, we all have. The privity question becomes a little bit moot because we've waived at all.

Yeah. Now that the, these parties still do have other parties, they're contracting with the creates privity. My guess is how that would actually play out is the claim would become the claim of the group and then X has responsibility to go and get the money from the contractor we had provided you with So I suspect there, and I bet there is an exclusion in there for the waivers if you have that kind of scenario. And then X would have to go get it from the team. But I guess there, I mean, I could see where that could be an issue kind of there with privity. So, there would have to be an exclusion to those waivers between the team members to go after people they contracted with.

Q. What are the mitigation strategies that you would recommend teams to use in order to tackle contractual privity?

A: One mitigation strategy is ensuring protection for the other parties or some type of protection, at least establishing the other parties have beneficiaries or something like that you'd want to be to truly mitigate dealing with the parties that are outside of the contract and putting appropriate language into those subcontract agreements. I think for me for mitigating the risk associated with the contract is setting up very well-established protocols for issue resolution.

Q: How do you perceive the risk profiling in the consensus docs?

A: I actually think the consensus stocks set up a pretty good risk profile. Consensus docs are industry doc. It used to be the AGC docs, but they created the consensus docs. So, they're a little more balanced and they're not quite architect slanted. I think the risk profile is good under the consensus docs. It has a limitation liability. It has the safe Harbour now it has them that you can select, so you get to choose. I think the risk profile under ConsensusDocs is quite good. Same thing though. You're going to have to modify it to match the deal that you've set up and now they don't have quite the same. They don't have quite the same. Like incentive structures is not quite as detailed as far as setting the goals and making sedatives for the goals outside of the pricing and stuff. So that's a little bit different. But I think that's all in the business deal.

B.2. Interview 2

1. Please describe your overall experience in Construction Dispute resolution, Dispute Resolution in and Integrated Project Delivery (IPD).

A: I have never had a need to utilize this clause in the 15 or so IPD projects that I have been involved in.

2. Have you noticed any emerging patterns in the causes of disputes in IPD? Explain.

A: I have not.

3. Is there a pattern in the particular teams these disputes occur between? Explain.

A: None that I am aware of.

4. How do you perceive the risk profiling in AIA's Multi-Party agreement?

A: I really cannot comment on the AIA IPD forms. In my opinion, they are terribly conceived and provide the poorest mechanism for contracting for these types of projects

5. Does the presence or absence of a risk pool affect the vulnerability of a project to disputes?

A: The absence of a risk pool removes a buffer that disincentivizes parties to make claims, and thus increases the risk of disputes.

6. Based on their risk profile clauses, is there any particular contract that you recommend owners, architects, contractors and Sub-contractors to choose for their IPD projects? Why?

A: The ConsensusDocs 300 is the state-of-the-art contract form that embodies all the best practices for implementing IPD.

7. Upon selection as the contract of choice for a particular project, how is the contract being modified and tailored to suit the requirements of that project? Are there common aspects that are being focused upon?

A: The modifications are highly dependent on the identity of the owner. Large international manufacturers and very highly esteemed medical institutions with international reputations tend to expect more from the project team in terms of continuing warranties and indemnities that are excepted from liability caps. Most owners, especially bigger institutions, are seeking expanded

warranties for the project that are not limited by the waiver of claims or limitations of liability that they are otherwise agreeing to.

8. How do multi-party agreements affect contractual privity, as compared to the single party agreements in other PDMs?

A: There is contractual privity between the parties who sign the IPD Agreement. It is tempered in the ConsensusDocs 300 by a limitation on liability equal to an individual party's profit at risk and share of savings.

9. AIA contracts for IPD also have single party contracts to be signed between the owner-architect and owner-contractor, apart from the multi- party agreements. How does this arrangement work in case of disputes and privity?

A: Again, as stated above, the AIA IPD forms are each and collectively poorly conceived and drafted. I would never recommend their use by anyone

10. What are the mitigation strategies that you recommend the owners, architects, contractors and sub-contractors use in order to tackle contractual privity in the presence of multiparty IPD agreements?

A: The whole idea behind the privity is to create a one for all environment in which the parties seek to resolve issues collaboratively, instead of playing the blame game. So the focus should not be on risk mitigation. The best mechanism I have found is the limitation of liability in the ConsensusDocs 300 form. By sharply limiting intra-project liability and eliminating "bet the company" levels of potential liability, it allows the parties to focus on effective elimination of risk.

APPENDIX C – Survey Questionnaire (Qualtrics Format)

Risk Profiles and Contractual Privity in Integrated Project Delivery

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Start of Block: Introduction

Q1 The objective of this survey is to gather and analyze data about risks associated with Integrated Project Delivery projects. It intends to (1) Identify the risks in IPD that are most likely to cause disputes; (2) Analyze how these risk profiles are represented similarly/ differently in Sutter Health's IFOA, ConsensusDocs 300, and AIA Contracts for IPD; (3) Understand and convey how contractual privity- definition stated below- is affected by multi- party agreements. The Wikipedia definition of contractual privity is: "The doctrine of **privity** of **contract** is a common law principle which provides that a **contract** cannot confer rights or impose obligations upon any person who is not a party to the **contract**. The premise is that only parties to **contracts** should be able to sue to enforce their rights or claim damages as such." For the purpose of this study, contractual privity in IPD means that sub-contractors and consultants are now able to hold and be held liable directly for issues that may arise during/after projects, since their firms are now signing parties on IPD multi- party agreements. This also means that in case of issues arising during/after the project, a team may come under fire for the errors of another team, just because they are both a part of the same agreement. Your responses for the following survey shall be a part of the data collected for my research "Risk Profiles and Contractual Privity in Integrated Project Delivery." Your anonymity shall be maintained.

End of Block: Introduction

Start of Block: Agreement

Q2 Do you agree to take this survey?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Block If Do you agree to take this survey? = Yes

Display This Question:

If Do you agree to take this survey? = No

Q3
Please enter the e-mail address of potential candidates who you think would be appropriate to take this survey or forward this survey link to them:

http://colostate.az1.qualtrics.com/jfe/form/SV_1RkYU6Y5m7hLqnz

_____

Skip To: End of Survey If Condition: Please enter the e-mail add... Is Empty. Skip To: End of Survey.

Skip To: End of Survey If Condition: Please enter the e-mail add... Is Not Empty. Skip To: End of Survey.

End of Block: Agreement

Start of Block: Section 1 : Demographics

Q4 Have you worked on/are currently working on/with Integrated Project Delivery (IPD) Project(s) or IPD Multi-Party Agreements?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you worked on/are currently working on/with Integrated Project Delivery (IPD) Project(s) or... = No

Q5
Please enter the e-mail address of potential candidates who you think would be appropriate to take this survey or forward this survey link to them:

http://colostate.az1.qualtrics.com/jfe/form/SV_1RkYU6Y5m7hLqnz

_____

Skip To: End of Survey If Condition: Please enter the e-mail add... Is Empty. Skip To: End of Survey.

Skip To: End of Survey If Condition: Please enter the e-mail add... Is Not Empty. Skip To: End of Survey.

Q6 Please tell us about your firm/ organization:

- Name (1) _____
- City (2) _____
- State (3) _____
- Years in Business (4) _____
- Number of Employees (5) _____
- Annual Revenue (6) _____

Q7 What is your role/ job title in your firm/organization?

_____

Q8 What type of projects does your firm work on?

- ○ Public (1)
- ○ Private (2)
- ○ Both (3)

Q9 Please select the projects your company works on. Select all that apply.

- [ ] Single family residential (1)
- [ ] Multi-Family residential (2)
- [ ] Commercial (3)
- [ ] Mixed-Use (4)
- [ ] Educational (5)
- [ ] Healthcare (6)
- [ ] Sport stadiums (7)
- [ ] Airports (8)
- [ ] Government projects (9)
- [ ] Heavy civil (10)
- [ ] Other (11) _____

Q10 Please select the discipline that best describes your firm's/ organization's area of expertise. Select all that apply.

- ☐ Architecture (1)
- ☐ Engineering (2)
- ☐ contractor (3)
- ☐ Sub-contractor (4)
- ☐ Project Management (5)
- ☐ Law firm (6)
- ☐ Consultant (7)
- ☐ Arbitration (8)
- ☐ Other (9) _____

Q11 How many years of work experience do you have?

- ○ Less than 5 years (1)
- ○ 5 to 15 years (2)
- ○ 16 to 20 years (3)
- ○ More than 20 years (4)

Q12 How many years of work experience do you have with IPD projects?

- ○ Less than 5 years (1)
- ○ 5 to 15 years (2)
- ○ 16 to 20 years (3)
- ○ More than 20 years (4)

Q13 Have you been involved in any dispute resolution issues on these projects? If yes, in what capacity?

- ○ Yes (1) _____
- ○ No (2)

End of Block: Section 1 : Demographics

Start of Block: Section 2 : IPD Contracts

Q14 Which IPD Contract(s) have you (your firm) worked with? Select all that apply.

- [ ] Sutter Health's Integrated Form of Agreement (1)
- [ ] ConsensusDocs 300 (2)
- [ ] AIA C-191: Multi Party Agreement (3)
- [ ] AIA C-195: Single Puspose Entity (4)
- [ ] Other (5) _____

Q15 Which agreements, among the ones you (your firm) have used, which one have you found to be more favorable to use in terms of: Ease of use

- ○ N/A - Used only one type (1)
- ○ Sutter Health's Integrated Form of Agreement (2)
- ○ ConsensusDocs 300 (3)
- ○ AIA C-191: Multi Party Agreement (4)
- ○ AIA C-195: Single Purpose Entity (5)
- ○ Other (6) _____

Q16 Which agreements, among the ones you (your firm) have used, which one have you found to be more favorable to use in terms of: Ambiguous language (choose the one with the least ambiguity)

- ○ N/A - Used only one type (1)
- ○ Sutter Health's Integrated Form of Agreement (2)
- ○ ConsensusDocs 300 (3)
- ○ AIA C-191: Multi Party Agreement (4)
- ○ AIA C-195: Single Purpose Entity (5)
- ○ Other (6) _____

Q17 1. Which contract agreement are you more likely to adopt in the future?

- ○ Sutter Health's Integrated Form of Agreement (1)
- ○ ConsensusDocs 300 (2)
- ○ AIA C-191: Multi Party Agreement (3)
- ○ AIA C-195: Single Purpose Entity (4)
- ○ Other (5) _____

Q18
Based on your experience, which IPD contract is utilized more often in the industry?

- ○ Sutter Health's Integrated Form of Agreement (1)
- ○ ConsensusDocs 300 (2)
- ○ AIA C-191: Multi Party Agreement (3)
- ○ AIA C-195: Single Purpose Entity (4)
- ○ Other (5) _____

End of Block: Section 2 : IPD Contracts

Start of Block: Section 3 : Risk Profiles

Display This Question:

If Which IPD Contract(s) have you (your firm) worked with? Select all that apply. = Sutter Health's Integrated Form of Agreement

Q19
Which are the clauses in Sutter Health's Integrated Form of Agreement being tailored/modified in order to better suit the needs of a project? Choose all that apply.

- [ ] General Provisions (1)
- [ ] Management of the project (2)
- [ ] Responsibilities of the parties (3)
- [ ] Compensation (4)
- [ ] Target Criteria and Target cost (5)
- [ ] Force Majeure (6)
- [ ] Insurance and Bonds (7)
- [ ] Risk sharing (8)
- [ ] Dispute resolution (9)
- [ ] Suspension and termination (10)
- [ ] Scope of agreement (11)
- [ ] Miscellaneous provisions (12)
- [ ] Other (13) _____

Display This Question:

If Which IPD Contract(s) have you (your firm) worked with? Select all that apply. = AIA C-191: Multi Party Agreement

Q20
Which are the clauses in AIA C-191: Multi Party agreement being tailored/modified in order to better suit the needs of a project? Choose all that apply.

- [ ] General Provisions (1)
- [ ] Management of the project (2)
- [ ] Responsibilities of the parties (3)
- [ ] Compensation (4)
- [ ] Target Criteria and Target cost (5)
- [ ] Force Majeure (6)
- [ ] Insurance and Bonds (7)
- [ ] Risk sharing (8)
- [ ] Dispute resolution (9)
- [ ] Suspension and termination (10)
- [ ] Scope of agreement (11)
- [ ] Miscellaneous provisions (12)
- [ ] Other (13) _____

Display This Question:

If Which IPD Contract(s) have you (your firm) worked with? Select all that apply. = AIA C-195: Single Puspose Entity

Q21
Which are the clauses in AIA C-195: Single Purpose Entity agreement being tailored/modified in order to better suit the needs of a project? Choose all that apply.

- [ ] General Provisions (1)
- [ ] Management of the project (2)
- [ ] Responsibilities of the parties (3)
- [ ] Compensation (4)
- [ ] Target Criteria and Target cost (5)
- [ ] Force Majeure (6)
- [ ] Insurance and Bonds (7)
- [ ] Risk sharing (8)
- [ ] Dispute resolution (9)
- [ ] Suspension and termination (10)
- [ ] Scope of agreement (11)
- [ ] Miscellaneous provisions (12)
- [ ] Other (13) _____

Display This Question:

If Which IPD Contract(s) have you (your firm) worked with? Select all that apply. = ConsensusDocs 300

Q22
Which are the clauses in ConsensusDocs 300 agreement being tailored/modified in order to better suit the needs of a project? Choose all that apply.

- [ ] General Provisions (1)
- [ ] Management of the project (2)
- [ ] Responsibilities of the parties (3)
- [ ] Compensation (4)
- [ ] Target Criteria and Target cost (5)
- [ ] Force Majeure (6)
- [ ] Insurance and Bonds (7)
- [ ] Risk sharing (8)
- [ ] Dispute resolution (9)
- [ ] Suspension and termination (10)
- [ ] Scope of agreement (11)
- [ ] Miscellaneous provisions (12)
- [ ] Other (13) _____

Q23
The presence or absence of a risk pool affects the risk profiling needed on an IPD Project. Please explain how.

- ○ Strongly Agree (1) _____
- ○ Agree (2) _____
- ○ Neither agree nor disagree (3) _____
- ○ Disagree (4) _____
- ○ Strongly disagree (5) _____

Q24 Does the presence of a risk pool affect how you insure an IPD project as compared to other non-IPD projects? If yes, explain what you would do differently?

- ○ Yes (1) _____
- ○ No (2)

Q25 Based on their risk profile clauses, is there any particular contract that you recommend teams to consider for their IPD projects? Why?

- ○ Sutter Health's Integrated Form of Agreement (1) _____
- ○ ConsensusDocs 300 (2) _____
- ○ AIA C-191: Multi Party Agreement (3) _____
- ○ AIA C-195: Single Purpose Entity (4) _____
- ○ Other (5) _____

End of Block: Section 3 : Risk Profiles

Start of Block: Section 4: Disputes in IPD

Q26 What have been the causes of dispute(s)/ conflict(s) in your IPD project(s)? Choose all that apply.

- [ ] Delay (1)
- [ ] Cost (2)
- [ ] Defective Design (3)
- [ ] Faulty Construction (4)
- [ ] Changes (5)
- [ ] Incentive (6)
- [ ] Risk Pool Amount (7)
- [ ] Contractual Privity (8)
- [ ] Other (9) _____

Q27 Based on your experience, at what stage of the project did the dispute(s) happen? Select all that apply.

- [ ] Design Phase (1)
- [ ] Pre-Construction Phase (2)
- [ ] Construction Phase (3)
- [ ] Close-out Phase (4)
- [ ] Warranty Period (5)
- [ ] Post Warranty Period (6)
- [ ] Other (7) _____

Q28 At what level did the dispute(s) get resolved? Choose the highest level to which they have escalated.

- ○ Internal Discussion (1)
- ○ Negotiation (6)
- ○ Mediation (2)
- ○ Arbitratrion (3)
- ○ Litigation (4)
- ○ Other (5) _____

Q29 Which teams did the dispute(s) occur in between? Choose all that apply.

- ○ owner and: (1) _____
- ○ Designer/ Engineer and: (2) _____
- ○ General Contractor and: (3) _____
- ○ Sub-Contractor and: (4) _____
- ○ End-user and: (5) _____
- ○ Other (6) _____

End of Block: Section 4: Disputes in IPD

Start of Block: Section 5: Contractual Privity

Q30 The Wikipedia definition of contractual privity is: "The doctrine of **privity** of **contract** is a common law principle which provides that a **contract** cannot confer rights or impose obligations upon any person who is not a party to the **contract**. The premise is that only parties to **contracts** should be able to sue to enforce their rights or claim damages as such." For the purpose of this study, contractual privity in IPD means that sub-contractors and consultants are now able to hold, and be held liable directly for issues that may arise during/after projects, since their firms are now signing parties on IPD multi- party agreements. This also means that in case of issues arising during/after the project, a team may come under fire for the errors of another team, just because they are both a part of the same agreement.

Q31 How has the implementation of Multi Party agreements and their effect of contractual privity affected how you (your firm) modify contract agreements, as compared to Single Party Agreements?

_____

Q32 How has the implementation of Multi Party agreements and their effect of contractual privity affected the way you (your firm) approach dispute resolution, as compared to Single Party Agreements?

_____

End of Block: Section 5: Contractual Privity

Start of Block: Mitigation

Q33 1. What are the mitigation strategies that you recommend to tackle the effects of contractual privity in the presence of multi-party IPD agreements?

_____

End of Block: Mitigation

Start of Block: Follow up

Display This Question:

If Have you worked on/are currently working on/with Integrated Project Delivery (IPD) Project(s) or... = No

And And 1. What are the mitigation strategies that you recommend to tackle the effects of contractua... Text Response Is Not Empty

And Do you agree to take this survey? = No

Q34
Please enter the e-mail address of potential candidates who you think would be appropriate to take this survey or forward this survey link to them:

http://colostate.az1.qualtrics.com/jfe/form/SV_1RkYU6Y5m7hLqnz

_____

End of Block: Follow up