

MSc Thesis

# Bridging Risks Uniting Visions

Enhancing Developer-Investor Dealmaking By  
Structured Data-Sharing

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# Bridging Risk, Uniting Visions

## ABSTRACT

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This thesis investigates how structured data-sharing can enhance dealmaking between developers and institutional investors in Dutch forward-purchase and turnkey residential transactions, with a specific focus on the negotiation corridor between a non-binding offer/letter of intent and the sale and purchase agreement. The research identifies that many inefficiencies arise not from limited transparency alone, but from fragmented information flows, incompatible data formats, conflated data streams, and the implicit accumulation of residual uncertainty, some of which persist even after due diligence and closing. Through a pragmatist approach—combining literature, semi-structured interviews, and internship observations—the study maps how data, uncertainty, and negotiation behaviour interact across triangulated developer-investor-operator relations. The resulting framework introduces phased and standardized data-exchange, segmentation of asset and mandate criteria, and residual uncertainty scoring that makes implicit assumptions explicit, negotiable, and defensible in pricing and contractual terms. The findings portray that disciplined sequencing of information, data segmentation, and clearer vocabulary, reduce valuation drift, limit re-trades, and improve negotiation efficiency, while preserving the strategic dynamics inherent to real estate negotiations. Ultimately, the study provides a realistic and scalable mechanism for aligning divergent approaches to risk, strengthening decision-making, and enhancing predictability in residential investment negotiations.

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**Keywords:** Investment Decision-making; Dutch Real Estate Development; Real Estate Investment; Institutional Investors; Forward Purchase/Turnkey Transactions; Data-sharing Frameworks; Information Asymmetry; Information Theory; Risk & Uncertainty; Residual Uncertainty; Risk Allocation; Risk Assessment; Negotiation Efficiency;

# Preface

*I often describe my achievements as a result of my constant search for exploring new journeys and adventures. Despite my many escapades, I do believe that this research has led me through one of the greatest adventures I have experienced. Understanding processes that have been going on for longer than I have lived, has allowed me to respect perspectives and drivers while developing a new way to look at what can be enhanced.*

*First and foremost, I want to thank my grandfather Benaissa. Without him I would have never understood the importance of academics to the extent I do today.*

*My mother—who has stressed this philosophy, and my brothers who have always supported my quirky way of going about life: I hope you know how grateful I am for your vital support through this research and beyond.*

*Dr. Ir. Michael Peeters, I sincerely appreciate your insights and adamant approach to guiding me through what intrigued me, and Dr. Zac Taylor, for aiding in way-finding and overseeing academic thoroughness.*

*To the residential team at CBRE IM and in particular Dex Mackaaij and Frank Aalbers: thank you. Not only for providing the opportunity to work with one of the leading forces in Dutch real estate investments, but also for creating a learning environment for me. And Dex, I have come to appreciate Amsterdam more because of our work together.*

*I believe that this research not only marks the end of my master, but more importantly the start of a journey like no other.*

*Like the famous painting: 'Ceci n'est pas une pipe'. It may look like a research, but it is the proof that conventional approaches to current practices are not necessarily wrong, we just need to update them by looking at them differently.*

**Soufiane Atif**  
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# Summary

## CONTEXT

Forward purchase/turnkey (FP/TK) residential transactions in the Netherlands involve elaborate negotiations during the dealmaking phase of a real estate development between developers and institutional investors, where fragmented information (flows), timing asymmetries, divergent risk and uncertainty perspectives, and selective disclosure cause stretched negotiation cycles and valuation divergence. Early data packages—teasers, IMs, visuals, and high-level facts—only partially fulfil the information needs of investors, while due diligence materials arrive late in the process, reinforcing information asymmetry and limiting the ability to mitigate uncertainty early in the negotiation process. Within this context, uncertainty persists due to incomplete designs, strategic withholding of information, and misalignment between investor preferences and existing project assumptions. The uncertainties left after data exchange are defined by this research as residual uncertainty, some of which persist after due diligence.

## HYPOTHESIS

The hypothesis of this thesis is that negotiation inefficiencies arise not only from limited transparency, but also from misaligned information flow. It proposes that mapping, categorising and quantifying residual uncertainty enables parties to determine explicit data needs, make assumptions easier to defend, and reduce pricing tension. By structuring how data is shared from initial investment decision to closing, and clarifying which uncertainties can or cannot be mitigated, negotiation processes become more efficient, and less vulnerable to valuation drift and re-negotiations. This angle reflects the interpretation of risk and uncertainty throughout this thesis, including the Knightian distinction between risk and uncertainty (known vs unknown probabilities).

## METHODOLOGY

The research follows a pragmatist, parallel method approach consisting of:

- Literature review exploring development processes, investor mandates, stakeholder drivers, obligations, data roles, and the conceptual foundations of risk, uncertainty, and residual uncertainty.
- Empirical data collection, including semi-structured interviews and internship-based observations, to understand how data is shared in practice and how key negotiation bottlenecks occur.
- Analytical modelling of the dealmaking process into three blocks—funnelling initial data, structuring negotiation-relevant data, and operationalizing and quantifying residual uncertainty—to deduce a workable, staged framework.

The methodology is designed to identify both structural and behavioural drivers of inefficiency while remaining grounded in real negotiation workflows and investor governance cycles

## KEY FINDINGS

This research identifies 4 main findings:

1. The data that significantly shape negotiations consists mainly out of design specifications, mandate requirements translated into programme of requirements, financial performance drivers, and information that mitigates uncertainties and risks. Selective data sharing creates valuation asymmetry and complicates investor underwriting.
2. Legal obligations shape data sharing less than informal norms, which is linked to institutional investor organizational cycles.
3. Residual uncertainty forms an implicit driver of negotiations by facilitating pricing spreads, opaque contractual buffers, and increasing negotiation duration. Systematic uncertainties are researched by both parties, while idiosyncratic uncertainties depend on developer owned knowledge, creating asymmetry. Residuals around construction timing, rent, and OpEx assumptions are especially significant, and are likely to cause opaque contractual buffers and/or re-trades. Entropy-based quantification demonstrates how the divergent perspectives on uncertainty and risk directly influence negotiation outcomes.
4. A proposed three-block framework based on current dealmaking processes enhancing each process—(1) standardised vocabulary for initial data exchange, (2) structured asset specification categories based on investor logic, and (3) a residual uncertainty score quantifying implicit uncertainties. Catalysts for adoption are trust, alignment with both governance cycles, and technological tools. Barriers for adoption are asset-class specificity, and unwillingness to share data.

## IMPLICATIONS

Based on these findings, this research concludes that a structured data sharing framework can enhance dealmaking, by aligning data flows with investor workflows, appointing data sharing responsibility, and translating divergent uncertainty approaches into explicit, negotiable variables. The framework can reduce valuation drift, shorten negotiation timelines and limit re-trades, without removing the competitive nature of negotiations. By doing this, it provides a strong recommendation to enhancing current forward purchase/turnkey dealmaking processes, and supports current market development on standardization. It also positions residual uncertainty as a tangible, decision useful concept that provides a new way to how uncertainty & risk, and information come together in (residential) development negotiations.



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## Abbreviations & Vocabulary

KYC		Know Your Client (Process To Investigate Counterparty)
RED		Real estate Development
IC		Investment Committee
PoR/PvE		Program of Requirements/Plan van Eisen
YoC		Yield on Cost
VPV		Vacant Possession Value
CP		Conditions Precedent
R&W		Representations & Warranties
SPV		Special Purpose Vehicle

### **Depending on Context:**

<i>IM</i>		<i>Investment Memorandum</i>
<i>IM</i>		<i>Investment Management</i>
LOI		Letter of Intent
NBO		Non-Binding Offer
ESG		Environmental, Social & Governance
DM1		Decision Making 1 (Initial Investment Decision)
REIT		Real Estate Investment Trust
TCT		Transaction Cost Theory
RBV		Resource Based View
RDT		Resource Dependence Theory
SPA		Sale and Purchase Agreement
NOI		Net Operating Income
LP		Limited Partner
GP		General Partner
OpEx		Operational Expenditure
CapEx		Capital Expenditure
ALM		Asset and Liability Management
IMA		Investment Management Agreement
DD		Due Diligence
GMP		Guaranteed Maximum Price
VDD		Virtual Data Room
TK		Turnkey
FP		Forward purchase
GFA		Gross floor area
NLA		Net lettable area
CREF		Commingled Real Estate Funds
Dealmaking phase		The phase within the real estate development process in which developers search for capital and negotiate with capital providers (institutional investors in this research)

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# 1 Introduction

## 1.1 BACKGROUND

The Dutch residential real estate market continues to expand as growing demand drives new development (Geis & Luca, 2021). Real estate development (RED) is a capital intensive process that is highly dependent on collaborations between real estate developers and institutional investors to make projects financeable and deliverable at scale, in which developers are reliant on institutional investors to finance large-scale/complex projects (Miles et al., 2015). In turn, institutional investors depend on developers to realise assets that align with portfolio mandates, yield expectations, and long-term performance targets (Ling & Archer, 2018).

The 'collaboration' starts with negotiations that take place during one of the phases within the RED process often referred to as the dealmaking phase. In this phase both parties negotiate about the to be developed asset; what it is going to consist out of, what the price will be, and how risks are allocated. Although many different agreements exist, forward-purchase (FP) & turnkey (TK) transactions are sensitive to frictions in negotiations, as the developer has full responsibility over the realization of an asset—ultimately being the owner of most data, while the investor has their own preferences and requirements to adhere to—e.g. yield & allocation, risk trajectories, mandate compatibility (Goodchild & D'Arcy, 2019).

Because negotiations in this context concern a probabilistic future instead of a built product, dealmaking becomes an inherently data driven and information dependent process. The transaction is not only a trade between money and bricks, but assumptions forecasts and uncertainties are traded between the parties. Information asymmetry, data quality, and unclear definitions stack up and cause inefficiencies (Renigier-Biłozor et al., 2020). Early stage information asymmetry favours the developer, while investors are dependent on snapshots of the future through an Investment Memorandum (IM), Due Diligence (DD) windows, and model outputs.

This contextualizes the negotiation process as a type of filtration mechanism: asset specifications and data are translated into decision useful information, information into valuation logic, and this logic into contractual allocations (MacGregor et al., 2019). While this cascading logic seems clear and structured, this filtration process is not as structured in practice. Data is shared in fragments—e.g. drawings, lease projections. Not only is information shared in fragments, the pieces of information arrive in different definitions, formats, and at different times. Instead of a clear flow of information, data needs to be interpreted, reconstructed, and reformatted (Wiesweg, 2022).

As the negotiations are about an asset that is yet to be built, risks and uncertainties are inherent to the realization of the development (Renigier-Biłozor et al., 2020). Risk allocations are often explicitly discussed during the negotiations, while some uncertainties—sometimes in the form of assumptions based on uncertain parameters, remain implicit. This concerns uncertainties that remain uncertain after data sharing, and some of which remain uncertain even after closing.

Where uncertainty cannot be turned into probability-defined risk, parties rely on safeguards: pricing buffers, conditional clauses, and warranty expansions (Baum & Hartzell, 2021). These tools protect downside, but they also prolong negotiation, widen valuation spreads, increase renegotiation probability, and reduce transaction predictability.

Institutional investors need structured and comparable information for efficient underwriting, where at the same time, developers need efficient ways to share information for valuation clarity, while ensuring that competitive/commercial advantage is maintained.

Overlapping objectives exist forming incentives for both parties to enhance current practices (Wiesweg et al., 2022):

1. Efficient negotiation and all-over dealmaking to reduce transaction costs
2. Using each other's value as an advantage
3. Realizing a profitable property; for the developer to create credibility, and for both to attain capital gain

## 1.2 PROBLEM STATEMENT

The problem starts with acknowledging that the definition of 'the dealmaking phase' is different for both parties. For the developer, dealmaking consists of many negotiations and deals between different parties to realize a RED. It is a complex phase in which many processes happen at the same time which can cause loss of oversight.

The divergent definition of dealmaking between developers and investors in the RED context already portrays their different positions and thus approaches to RED. Dealmaking in the research context is between two parties with divergent characteristics, perspectives and workflows/expertise that negotiate to fulfil personal objectives, complicated by divergent approaches to pricing and terms. These result in stretched timelines, opaque contractual buffers, and divergent valuations. The divergent characteristics also translate in both parties having their own objectives, not limited to monetary means. This results in having different priorities and positions in negotiations.

Many believe that, specifically within real estate, the ability to turn raw data into useful information, often makes the difference between profit and loss (Miles et al., 2015). According to Nezami et. al. (2022), data are collected as facts and statistics, after which it becomes information after they have been interpreted and analysed, which in turn supports decision-making. Data supports the decision-making processes of both parties. However, current data sharing practices are not yet optimal.

### 1.2.1 The Limited Sharing Of Data

Despite its central function of aligning valuations and mitigating negotiation inefficiencies, data exchange in real estate is proven to be limited due to (Wiesweg et al, 2022):

- Poor quality of data
- High costs
- Lack of standardization
- Trust and incentive misalignment

During dealmaking—especially in the early stages, information is kept to what is strictly required for DD or IC approvals, while project specific assumptions are withheld (Miles et al., 2015). This cautious approach to sharing data stems from both strategic and institutional constraints. As the developer strives to protect commercially sensitive data to maintain negotiation leverage, institutional investors face fiduciary and regulatory obligations that prevent them from sharing proprietary (mandate) information (Ling & Archer, 2018). This selective transparency feeds into information asymmetries that obstruct price forming and negotiation efficiency.

### 1.2.2 (Information) Asymmetry And Its Impact

As data forms an instrumental resource for informing decision making, persistent gaps in quality, timing, and comparability of data exchanged between institutional investors and developers create information asymmetry during dealmaking, which in turn facilitates inefficiency during negotiations.

This asymmetry occurs when one party holds materially more/actionable asset or context knowledge than the other—in the research context being the developer. The practical effect of this asymmetry can be pricing uncertainty, longer due diligence processes—extending dealmaking timelines, and broad contractual buffers that impact expectations. As real estate assets are localized, heterogeneous and not traded under transparent

data exchange (Ling & Archer, 2018), this asymmetry is worsened. Even when negotiated under good-faith, raw datasets require translation before it can be used for valuation. When looking at a developer data pack for example, it is often tailored to residual land value, while investor IC relies on DCF. The data is present, but needs to be refined before being able to use it (Moorhead et al., 2024). Here the data is not missing, but rather structured in a way it lacks compatibility with the counterparty decision making process. Analysts now need to reconstruct inputs to fit the required format to be able to use the information.

This lack of compatibility is also clearly visible in the lack of shared vocabulary. A developer's NLA (Net Lettable Area) may include certain spaces an investor does not use to calculate YoC (Yield on Cost) (Wiesweg, 2022). Without agreed/standard vocabulary, both parties may use different assumptions, producing different valuations from identical floorplans.

Timing plays an amplifying role in asymmetry. As developers often commit substantial resources before involving an investor, they are likely to have extensive insight into construction risk projections. Investors entering at a later stage in turn face a compressed timeline in which they are expected to gather similar knowledge. If initial disclosures leave out granular details on contractor information, contingencies concerning regulatory changes or projected milestone dates tied to permitting processes, cannot be assessed the same as the investor has less opportunity to question risk drivers before committing capital (Macgregor et al., 2019). This can lead to the investor overcompensating with conservative pricing or demanding broad protective clauses into the Sale and Purchase Agreement (SPA) that shift risk allocation imprecisely.

Operators often have asset operations insights that neither investor nor developer examine rigorously early negotiation (Park, 2020). When such perspectives are excluded or delayed after closing, unforeseen operating expenses can cause disputes. Excluding these operation insights can also facilitate for conservative assumptions from the investor as there is a heightened uncertainty perspective. The disputes can be seen as a symptom of initial asymmetry; the party that had access to the right information did not suffice in communicating the information transparently. Market segmentation adds onto the impact of asymmetry. Institutional grade investment opportunities tend to attract the same type of investors, having comparable professional sophistication but different familiarity with local idiosyncrasies (Ling & Archer, 2018).

For internationally active investors entering Dutch markets, location specific knowledge-like planning norms or customary asset specs, may be entirely new for them, while developers may assume these as known as they operate within these boundaries on a day-to-day basis. This assumption creates an asymmetry from cross-border interpretation gaps (Macgregor et.al., 2018).

The impact of the mentioned asymmetries are:

1. Valuation drift: preliminary vs final prices differ due to divergent definitions/formats, raising re-trades.
2. Timeline extension: extra reconciliation hours extend DD and delay SPA.
3. Risk misallocation: non-transparent exposure mapping leads to conservative buffers and broad contractual clauses.
4. Relationship strain: perceived withholding fuels mistrust.

Based on the previous, this research defines the following **hypothesis**:  
By introducing a structured data sharing framework that takes into account both parties constraints, drivers, characteristics, and decision-making processes—the divergent perspectives and approaches to RED can be united and can reduce current inefficiencies, lead to tighter pricing, and balance transparency, while both parties are able to maintain their competitive advantage linked to sharing data. By leveraging the mutual objective of reducing overall transaction cost and mitigating the sources of inefficiencies, a structured data sharing framework should be able to improve dealmaking.

To test this hypothesis, this research defines the following **research questions, with supporting sub-questions**:

*How can a structured data-sharing framework between institutional investors (including operator) and developers improve pricing and negotiations during the deal-making phase of turnkey/forward-purchase developments?*

1. What data is currently shared that actually impact negotiation (topics)?
2. What obligations and norms govern data sharing in the Dutch context—and how do they shape behaviour?
3. How do risks and uncertainty impact negotiations across developer-investor-operator, what/who owns the information (that) mitigates them, and how material are the residuals for pricing and terms?
4. What should a structured data-sharing framework include, what are the barriers & catalysts, and what drives adoption?

## 1.3 RESEARCH AIM & RELEVANCE

By acknowledging current negotiation practices and researching the different processes in dealmaking between institutional investors and developers, this research aims to enhance the dealmaking process by optimizing the different processes that shape the dealmaking process.

Leveraging the mutually vital and exchanged resource data, this research's aim is to develop a structured data sharing framework, using current practices as a starting point, and adapting existing solutions to the proven problems.

As the research concerns an in practice problem, current negotiations are explored qualitatively and the findings are translated into solutions tackling different inefficiency sources, ultimately enhancing the complete process. As this entails different solutions combined together, this research explores how a framework can mitigate the negative outcomes described in the problem statement.

By researching available literature, conducting semi-structured interviews, archive analysis, and internship insights, the source of these inefficiencies and how they can be mitigated are translated into a framework. With in practice insights, this research aims to balance transparency and efficiency, while making assumptions based on uncertainties easier to defend.

This study begins with a review of academic and applied literature on RED dealmaking, negotiation structure, information asymmetry (asymmetry), (residual) uncertainty & risk, and data-sharing behaviour. The literature review establishes negotiation positioning, how negotiation inefficiencies are currently present related to divergent positions in negotiations, map how uncertainty is translated into risk and price, identify gaps related to uncertainty and information (value), and to position where this research can contribute to new knowledge. The literature review first examines the contextual foundations that shape developer-investor relations, after which mechanisms inside the dealmaking phase are explored where information, uncertainty, and negotiation dynamics materialize.

To place this in the relevant practical context, semi-structured interviews were conducted with developers, decision makers in institutional acquisitions and a project manager. The interview structure allowed participants to discuss negotiation behaviour, data requirements, pricing logic, and strategic disclosure from their own perspectives.

Combining the relevant existing literature and qualitative research, this thesis introduces a structured framework for data-sharing within FP/TK negotiations. The framework identifies sources of inefficiency, explains how residual uncertainty emerges and persists, and translates this into a holistic mechanism to mitigate pricing and negotiation friction, without removing strategic leverage inherent to negotiation.

**Academically**, this research contributes to existing literature as it advances the understanding of negotiation inefficiency not as a lack of transparency, but rather as misalignment in timing, format, and strategic usage of data—filling the current gap in literature on developer-investors information exchange in Dutch context as well as tangibility of data needs.

**Practically**, this research contributes to current negotiation practices by translating the current research gap into a data-sharing architecture that enhances negotiation efficiency, reduces valuation drift, and increases defensibility of assumptions taking into account negotiation positions. This allows uncertainty to be assessed collaboratively instead of it being priced in an adversarial manner as a result of divergent perspectives.

Ultimately, this research shows that transparency does not necessarily have negative consequences if controlled correctly. If it adheres to the preferences and necessities of all parties involved, it can accelerate negotiations while maintaining competitive advantage, strengthen trust, and produce outcomes that are better founded, better priced and easier to defend.

## 2 Literature Review

To discover how a structured data-sharing framework can improve dealmaking, it is necessary to first understand the environment in which these deals occur, the motivations of the stakeholders involved, the role data & information play in their decisions, and what the impact is of negotiating a probabilistic future.

### 2.1 PROCESS CONTEXT

This section commences with outlining the developer-institutional investor collaboration as the relational setting within RED, and then positions the start of this collaboration—the dealmaking phase, within the broader development process to clarify where negotiations and initial data exchanges enter the project life cycle. This contextualises the dealmaking environment within the RED process context.

#### 2.1.1 Developer & Institutional Investor Collaborations

As stated in the introduction, developers in the Dutch context often rely on institutional investors to make projects feasible and financeable at scale. Their relationship is a crucial element of the development process, often driven by financial necessity and risk management. Developers frequently require substantial capital to fund projects, and if they lack sufficient funds or prefer to limit personal financial exposure, they seek equity investment from institutional partners (Miles et al., 2015). In return, investors benefit from opportunities to earn substantial returns, participate in asset appreciation, and leverage professional management expertise within the real estate sector (Kane, 2001). By partnering with institutional investors, developers gain access to the necessary capital, financial expertise, and risk-sharing mechanisms that enable large-scale projects to move forward.

"The goal of private sector participants is to minimize risk while maximizing personal or institutional objectives—typically profit" (Miles et al, 2015). Profit remains the central objective, though non-monetary goals, such as portfolio diversification or long-term value creation, may also drive investment decisions. Non-monetary goals that influence investment decisions are based on the characteristics of an investor (McAllister, 2019).

In a development, the developer is the orchestrator of value under uncertainty the institutional investor is the capital partner constrained by mandates and governance further elaborated in section 2.2.2 (Peiser & Hamilton, 2012);. Their interdependence shifts by phase: early, information is costly and uncertainty is high (developer drives); once capital is committed and construction/operations kick in, investor requirements and financing structures weigh more heavily (investor disciplines) (Ling et al., 2016). The role of a developer demands thorough preparation and persuasion across many counterparties: "A developer also should be detail and plan oriented... [and] must gain the confidence of a host of persons and provide the information, arguments, and incentives to make them friendly toward negotiating the solutions that the developer needs." (Ling & Archer, 2015).

Given the uncertainties inherent to RED—such as market fluctuations, regulatory changes, and construction challenges, developers must be highly adaptable. As noted by negotiation expert Chester Karrass, successful real estate developers need a "high tolerance for ambiguity and uncertainty" to navigate the complex and shifting landscape of deal-making (Miles et al., 2015). Investors however, inherently have a lower tolerance for ambiguity, uncertainty, and risk (Hull, 2021). This greatly influences negotiation approaches as the subject of negotiation concerns a probabilistic future.

The two parties are also structurally codependent. "deep-pocket... equity investor" personally guarantees the loan "in return for 50 percent of the development profits"—letting the developer recycle construction financing as sales occur (Miles et al., 2015). In other words, capital underwrites risk; development skill unlocks value.

One of the most critical aspects of the negotiations involves structuring financial agreements that balance cost and risk. Developers often work with a mix of equity investors, long-term lenders, and construction lenders, strategically distributing financial exposure among these stakeholders. The choice of financing sources directly impacts the developer's potential for profit and level of risk. A well-structured deal can maximize returns while mitigating financial vulnerabilities, but misaligned incentives or poorly negotiated terms can expose the developer to significant downside risks (Miles et al., 2015).

The relationship between developers and institutional investors is not just about securing capital, it is an ongoing, dynamic collaboration that evolves throughout the development process. Beyond financial investment, institutional partners play a crucial role in structuring deals, negotiating terms, and managing risks alongside developers. This evolving partnership, built on negotiations during the dealmaking phase emphasizes the interdependence between real estate developers and institutional investors. While developers drive the vision and execution, institutional investors bring financial strength and stability, ensuring that projects are not only feasible but also profitable for all stakeholders involved (Ling & Archer, 2018).

Ultimately, the relationship between developers and institutional investors extends beyond initial negotiations into long-term collaboration. Once financing is secured, the developer shifts into a management role, overseeing the project's execution while maintaining investor confidence and ensuring financial objectives are met. Institutional investors, in turn, continue to provide oversight, often influencing key decisions to safeguard their returns (Ling & Archer, 2018).

To understand the context of the dealmaking phase, the following section sets out different approaches to RED to find the most suitable approach to adapt to this research.

## 2.1.2 Real Estate Development Approaches

RED is a complex, multidisciplinary, and iterative process that transforms land or existing properties into improved uses, generating economic, social, and environmental value (Squires et al., 2018). It is inherently dynamic, shaped by market conditions, regulatory environments, technological advancements, and evolving societal needs. The process involves multiple actors—including private developers, public agencies, financial institutions, consultants, and end users—whose coordinated efforts span the full property life cycle, from project inception through redevelopment (Miles et al., 2015; Kohlhepp, 2012).

The process can be simplified into the following diagram:

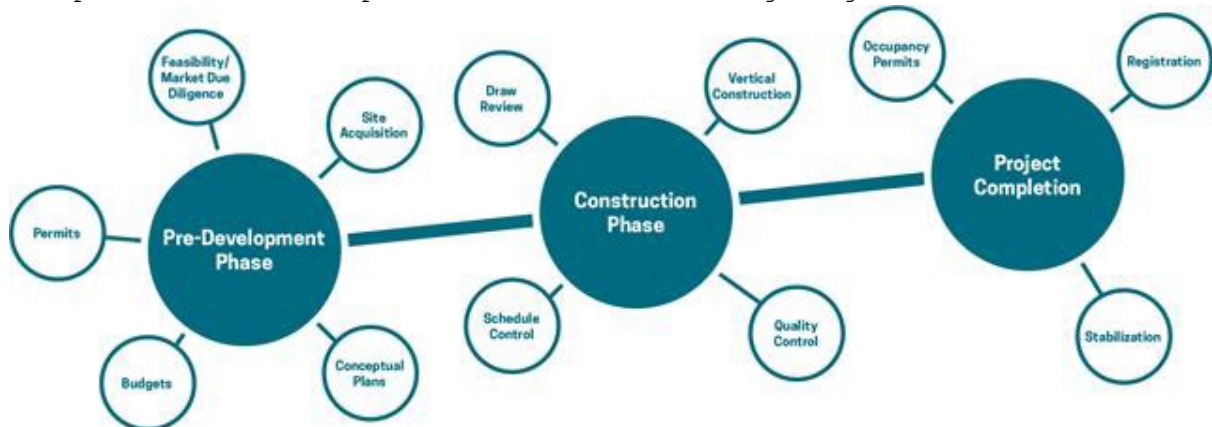


Figure 1: Development Stages. Source: Stride Properties, n.d.

The RED process is described in many pieces of literature and is often described as a cyclical and changing/adaptive chain of sequential stages. Due to the many different stakeholders involved, many pieces of literature describe RED differently. To find the most suitable approach to understand the position of dealmaking and data sharing, the following delves into three widely recognized RED approaches to be able to

Kohlhepp (2012) presents a seven-stage lifecycle model, defining different stages which shifts the scope to the entire lifecycle of an asset. The different stages are defined as land banking, land packaging, land development, building development, building operation, renovation, and site redevelopment. Squires et al. (2018) integrate a broader consideration of social impact, market dynamics, organizational management, financing, and sustainability. Miles et al. (2015) published a book on the RED process which is widely recognized in both academic and professional contexts for its clear sequencing of activities and decision gates. It outlines an eight-stage model beginning with idea inception (1), to refinement of the concept (2), feasibility analysis (3), contract negotiation (4), formal commitment (5), construction (6), completion and formal opening (7), and finally property and asset management (exploitation) (8).

The differences between these approaches is not just different terminology for the same stages. It portrays a difference in approach to RED. The Miles et al. (2015) model is particularly useful for operational management and tracking progress in a single project, while Kohlhepp's (2012) life-cycle approach better supports portfolio-level strategy and long-term land use planning. Squires et al.'s (2018) thematic integration focusses on contexts where sustainability, governance, and market positioning are as important as the physical product.

Miles et al.'s structured format makes it especially suitable for identifying where in the development process critical interactions between stakeholders occur. For this reason, while the previous approaches were considered and taken into account, this research uses this approach to define the process context of dealmaking, negotiations, and data sharing.

**Synthesis;** Together they emphasize that the conceptualization of the RED process involves balancing structured sequencing with adaptability, meaning each next stage is informed by past lessons and future uncertainties. This portrays on a macro level the impact the different phases have on each other, shaping decision momentum, risk exposure and negotiation dynamics through the development process.

### 2.1.3 Exploring The Entry Of The Deal-Making Phase – Starting Point

Adapting the Miles et al. approach, the following looks closer at the dealmaking phase, as the focus of this research is on data exchange during this dealmaking phase, including the dynamics between these two stakeholders—in which this research embeds the operator into the investor. Its impact will be elaborated in the following section 2.2.2. How does the initial dealmaking start, or rather: what does the starting point of dealmaking between institutional investors and developers look like?

While the full model of Miles et al in the previous chapter captures the entire project lifecycle, this research focuses on stages 3 to 5, and the reciprocating impact on stage 8. 3-5 covering the deal-making phase (during which investors and developers exchange the most critical financial, market and technical information) and stage 8 being the exploitation/operation phase. Here the developer's role in RED evolves from that of an idea generator and project advocate to a lead negotiator, responsible for bringing together all key stakeholders, including institutional investors, lenders, and other project partners. This shift occurs during the transition from early-stage planning to construction, where securing funding and aligning stakeholder interests become the priority (Miles et al., 2015). The entry point of an investor differs per project and can also be part of the initial proposition (embedded in the IM) (Brueggeman & Fisher, 2016).

Developers and institutional investors engage in continuous negotiations to establish contract terms that reflect the evolving nature of a real estate project. These negotiations cover a wide range of subjects, from financing structures to risk allocation and return expectations (Kane, 2001).

Stage 4, contract negotiations, is the moment a project moves from feasibility to determining terms and capital. "Contracts are negotiated. Developer gets loan commitment in writing." (Miles et al., 2015), while stage 5 is the actual binding step: "Contracts, often contingent on each other, are signed.". So what does the entry into stage 4 look like?

Stage 3 is the feasibility analysis stage, in which both parties have their own decision making. The developer is looking for the right backer, while the investor is looking for the right project/investment. Assessing whether a project is feasible and whether it is interesting for an investor is based on an initial proposition. This initial proposition often consists of an Investment Memorandum (IM). This contains a project description, units/unit mix, floor areas, stacking plan, key features & renders (visuals), and ESG ambitions (Brueggeman & Fisher, 2016).

Based on this information the initial investment decision (DM1) on the acquisition side is made (Moorhead et al., 2024):

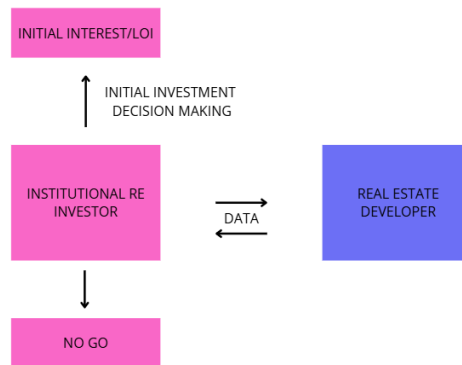


Figure 2: Stage 1 data exchange

The data that is shared by an investor around this first stage is mostly informal (what kind of investments is the investor currently looking for?). Based on this a developer decides whether to share data or not. This data is shared in the form of an Investment Memorandum (IM) (McAllister, 2019).

Now that the transition into the dealmaking phase—and thus when dealmaking enters RED is explored, the position of data in this first stage follows.

### 2.1.4 Practical Entry – First Stage Of Data Exchange

Based on the initial investment decision (DM1), a non-binding offer/letter of intent (NBO/LOI (the difference is not of great significance to the inquiry. The significant aspects are set out under scope in the methodology section)) is drafted (Peiser & Hamilton, 2012). This forms the practical entry of stage 4 and clearly portrays the initial data exchange. On the acquisition side (investor), Miles explains that preliminary discussions “lead to a nonbinding letter of intent that outlines the terms under which the parties would be willing to enter into a contract,” commonly stipulating “The price to be paid at closing; ... Deposits... to take the property off the market; ... and due diligence rights [/contingency].” (Miles et al., 2015). It structures exclusivity, economics, and due-diligence before definitive agreements. The contents of this LOI is further elaborated in this research after characteristics and drivers of decision-making are determined/framed.

On the income side (developer at this stage of dealmaking), there can be other LOI's in place. Depending on the timing of this negotiation, if enough uncertainty is mitigated, a developer may already have tenants', as tenants that identify space will typically submit a LOI to the landlord with broad lease terms (Ling & Archer, 2018). The landlord in this stage, being the developer. This is the first step to pre-leasing which can help in unlocking lender and investor commitments. Permanent lenders often will not finalize without visible income security: “It is common for the permanent lender to be unwilling to commit until certain major tenants have signed lease agreements.” (Miles et al., 2015). Here the lease LOIs form a pipeline to those executed pre-leases that de-risk commitments for both lender and equity. [the impact of uncertainties on negotiations first comes to light here].

The negotiation in stage 4, is conditioned by what gets assembled in stage 3. Miles explicitly states: "The financing arranged during stage three critically affects the sharing of project risks," and that "More review by all players in stage three will make the negotiations in stage four much easier." (Miles et al., 2015; coherent with Goodchild & D'Arcy, 2019). This is also where investor priorities first surface in concrete form: "Investors bring their own perspectives ... They want to make their cash contributions late ... [and] do not want to be personally liable; they do want to maximize their after-tax returns." (Miles et al., 2015).

The boundary between stage 4 and 5, clarifies why stage 4 is the starting point of the deal-making process. Execution risk and risk-sharing are fully defined only when contracts are signed: "Contracts, often contingent on each other, are signed," including joint ventures (JV), construction and permanent loan, and pre-lease agreements (Miles et al., 2015). This also means that the commitment/collaboration type which can be proposed in stage 3 and negotiated in stage 4, impacts execution risk and risk-sharing. To keep the inquiry executable, this research explores turn-key/forward purchase agreements, as these entail a clear division of risk-sharing, namely on the developer side. This incentivises transparency by improving pricing for the developer, as mitigating uncertainties/risks for the investor—by data-sharing (transparency)—directly influence the price an investor is willing to pay (Squires & Heurkens, 2015) .

**Synthesis;** The starting point of deal-making is the entry into—what Miles et al defines as stage 4, often practically executed and structured by NBO/LOI's that set the economic frame, exclusivity, and due-diligence contingency, which is triggered by a sufficiently developed feasibility analysis. At this point investors move from conditional interest to negotiating concrete terms, while shared risk and enforceable obligations only arise at Stage 5 when interdependent contracts are executed, shared risk can be partially designed in stage 3 as part of the proposition (in the form of a proposed contract structure (e.g. turn-key, JV) (Miles et al., 2015;Ling & Archer, 2018).

After understanding the relationship between both parties, the position and impact of the dealmaking phase, as well as the entry position of data is explored, the next step to comprehending dealmaking and the decision-making processes that drive data exchange, is defining the drivers and characteristics of both parties that shape negotiation dynamics during this phase. These characteristics define the objectives of both parties to understand what the function of data is, and what each party aims to achieve in the competitive negotiation environment.

## 2.2 STAKEHOLDER DRIVERS & DISTINCTIONS

As stated in section 2.1.1, the goal of private sector participants in RED is to maximize personal or institutional objectives. These objectives are defined by the characteristics of the concerning participant, which shape negotiation dynamics and behaviour. Having established the relationship between the parties, the position of the dealmaking phase, and the initial entry of data, the next step is thus to define the drivers and characteristics of the stakeholders involved. By determining each party's objectives, constraints, and decision-making logic, it can be explained how and why data is exchanged, interpreted, and used within the competitive negotiation environment, .

While both investors and developers rely on data, their priorities, objectives and characteristics differ, translating into a divergence in approach to negotiations surrounding a development and their usage of data.

### 2.2.1 Distinguishing Developers - Characteristics

Developers can be perceived as the leaders of the development team, as they coordinate people to realize a vision (Miles et al., 2015). As described by Brueggeman and Fisher: "Essentially a developer (1) acquires a site, (2) develops the site and constructs the building improvements, (3) provides the finish-out and readies the space for occupancy by tenants, (4) manages the property after completion, and (5) may eventually sell the project." While they cover only a fraction of the participants in real estate (development) their role is central and highly visible (Ling et al., 2016).

In practice, their role is versatile: "the developer's job description includes shifting roles as visionary, promoter, negotiator, manager, leader, risk manager, and investor," which is why "appropriate flexibility is one of a developer's most crucial traits." (Miles et al., 2015). Because projects unfold in highly regulated, politically visible settings, "developers are agents of change," and their reputation and ability to negotiate with authorities and neighbours can materially affect outcomes (Miles et al., 2015).

Developers have similarities in some characteristics such as their approach to uncertainty and risk. Developers absorb early-stage uncertainty, earning returns for "managing under stress and uncertainty" with "creativity, drive, flexibility, and vision" (Ling & Archer, 2015).

Ling and Archer emphasize that successful development is "complex, uncertain, turbulent, and even hostile at times... a competitive 'sport'," such that the best developers are not risk seekers but disciplined "risk managers" who manage the volatility of project feasibility, permitting, and market risk (Ling & Archer, 2018).

The earlier section 2.1.2 on RED approaches emphasizes the breadth and orchestration of activities and stakeholders: a developer must assemble and evaluate activities across design, engineering, market analysis, finance, and delivery, communicating a coherent plan to each specialist (involved stakeholder) while keeping the project financially and approval wise viable (Miles et al., 2015).

The skills to enable this process—sequencing design, approvals, financing, construction, leasing, and exit—are reinforced by different RED process approaches in the literature (e.g., Kohlhepp seven-stage lifecycle model and Miles et al.'s eight-stage model), emphasizing that development is iterative rather than linear and demands anticipatory decision-making at each stage (Kohlhepp, 2012).

However, developers cannot be treated as a uniform stakeholder group, as differences in risk exposure, capital structure, and development role directly influence negotiation dynamics and the treatment of information during dealmaking. For this reason, the following elaborates on the divergence among this stakeholder group.

## Divergent Developers

As the RED phases progress, the capital intensity spikes—e.g., “construction financing is 10.2 percent [of total cost] and vies with land cost as the second largest item”—so lender/investor requirements increasingly shape choices (Ling & Archer, 2015). How these choices are implemented is dependent on the developer type.

The characteristics of developers as well as the characteristics of investors, impact negotiations and deal-making in the form of e.g. timing of involving different stakeholders. Entry is influenced by what a developer controls— “money, land, knowledge, and tenants—and a would-be developer must have control of at least one of these.” (Ling & Archer, 2015). A land-rich developer may engage earlier; a capital-rich or tenant-secured developer may enter closer to financing/letting—each profile changes when (and how) capital is approached.

Two fundamental parameters shape developer typologies in practice (Kohlhepp, 2012):

1. Who bears risk and claims upside (compensation and capital structure) which is contractually anchored at closing
2. Which stage of the RED lifecycle they specialize in (scope and capabilities) which directly influences stakeholder and capital involvement

Miles et al. differentiates “straight fee” developers—hired by a client to deliver a project—from “speculative developers” who contribute equity and absorb both downside and upside. Fee developers are paid a development fee (and sometimes a bonus), whereas speculative developers earn through promote/ownership and sale profits; many firms blend these models across projects (Miles et al., 2015). Positioning on this spectrum links directly to incentives, governance, and control: the more equity at risk, the tighter the alignment with investment outcomes; the more fee-based the mandate, the more process- and service-oriented the engagement must be to satisfy a client’s program and schedule (Miles et al., 2015). McMahan explains the entrepreneurial nature concisely: “the developer adds value by ‘riding the risk curve’ and shouldering the development risks that most investors are not willing to assume.” (McMahan, 2007).

A second, equally important distinction that differentiates developers is where you enter the chain. Kohlhepp’s development matrix identifies discrete roles: the land packager who creates “paper enhancements” (planning, zoning, surveys); the land developer who installs horizontal infrastructure and sells finished pads; the building developer who undertakes vertical construction and lease-up; the building operator who stabilizes and manages; and later-stage specialists such as renovators and re-developers who resolve outworn assets or repurpose sites. Each role demands different capabilities, risk appetites, and time horizons (Kohlhepp, 2017).

**Synthesis;** the differences among developers lie in (1) risk/return exposure and capital stance (fee versus speculative; degree of equity at risk), (2) scope and phase of engagement (entitlements and horizontal works versus vertical delivery versus stabilization/operations versus renewal), and (3) the capabilities to manage stakeholders—from public approvals to capital markets to end-users—over an extensive, path-dependent process. Developers are driven by their objective to realize a vision, while earning a profit.

## 2.2.2 Distinguishing Investors

The decision-making process concerning the acquisition of a real estate object differs per investor type. As this research concerns institutional investors—motivated in the following chapter 2.4, the operation phase of the to be developed asset is also part of negotiations in the dealmaking phase. This ‘triangulation’—as defined by this research, will firstly be elaborated.

### Understanding Triangulation

The focus on long-term investments often translates into institutional investors either being the operator or responsible for the operator at the end of a RED (Lind & Lundström, 2016; Song & Lind, 2009). This triangulation (developer-investor-operator) affects the narrative for this research as it embeds the responsibility concerning the operations of the asset within the responsibilities of the investor. While this operator could be either within the investor, or a third party, this research presumes the investor being the responsible operator (either in house, or hired by the investor) (Ling & Archer, 2018).

This means that data that is shared and needs to be shared, is not limited to developers and investors, but rather forms a triangulation (as previously referred to) in data sharing (Nezami et al., 2022) to enable optimal operations of the asset. Subsequently, the risks and uncertainties that concern the operator, are now part of the responsibilities and concerns of the investor. This expansion of data shared during the deal-making phase of a development, reflects the reciprocating impact the dealmaking phase has on the operations phase. This expansion of data sets now includes e.g. OpEx drivers, energy performance, service-charge structure. The expansion of responsibility is reflected in the stakes of mis-specification, as post-closing performance now sits with the investor (Lind & Lundström, 2016). Consequently, operator-relevant documentation (validated WWS sheet, energy/ESG evidence, preliminary service-charge budgets, maintenance regimes) should be included in the LOI→SPA (corridor) data packages rather than deferred to post-closing (Miles et al., 2015).

As ESG criteria are impacting the Dutch real estate environment more, projects with sustainability certification or high ESG scoring ambitions, operator insights can emphasize where regulatory compliance can lead to higher operational costs, e.g. specialist servicing of sustainable facades or mandated environmental audits (Macgregor et al., 2019). If these requirements surface later in due diligence without prior financial modelling, they can be perceived as negative developments and can cause repricing disputes.

In the appendix, an order of responsibility at IM firms—which serve as vehicles for institutional investors, can be found for more nuance on the placement of the operator stakeholder in the stakeholder mapping.

**Synthesis;** The embedding of the operator in the stakeholder mapping is vital for data, data types, and data needs, while the party representing these needs remains the institutional investor.

## Divergent Investors

What drives an institutional investor and their decision-making depends on their objectives, translated into policy and strategy. Real-estate investors choose where in the capital stack to sit (from senior debt to equity) and which market channel to use. A standard map is the four quadrants—private equity, public equity (REITs/REOCs), public debt (CMBS/RMBS), and private debt, each with different liquidity and skill requirements (Baum & Hartzell, 2021). Style choices layer on top of this: core and core-plus targets income and quality with lower risk, while opportunistic accepts higher risk—often with higher leverage—to pursue outperformance (Baum & Hartzell, 2021). Institutional investors balance control, diversification, and cost when choosing vehicles. Separate accounts trade some liquidity for tailoring to the needs and objectives of one investor, whereas commingled real-estate funds (CREFs) pool commitments to deliver expertise and diversification to smaller institutions (Ling & Archer, 2018). In practice, ongoing asset management is central because long holding periods and high transaction costs make NOI (net operating income) the key driver of value; property management handles day-to-day operations, while asset managers make strategic decisions (capex, refinancing, conversions, dispositions) and act as liaisons between investors and their assets (Ling & Archer, 2018).

What differentiates institutional investors from other investors is the access to institutional capital and professional expertise, which result into a (1) larger-capital intensive project scale, (2) focus on long-term value creation (subsequently focus on operational efficiency), and (3) risk-averse, data-driven and collaborative approach (Miles et al., 2015). This collaborative approach incentivizes a more collaborative nature of dealmaking.

Additionally, due to this difference in scale and characteristics, policy and strategy shape the Modus Operandi (MO) and decision-making. At the corporate (policy) level, institutions set the role and size of real estate in an ALM (Asset and Liability Management) context determining return and risk. Longer horizons and greater tolerance for illiquidity make private real estate particularly attractive when the risk premium is high (Macgregor et al., 2019). By contrast, regular investors (households, small organizations) tend to prioritize liquidity and simplicity (Goodchild & D'Arcy, 2019).

The translation of these decisions to practice follows a cascading logic; policy → mandate → strategy → operations

### **Corporate strategy (policy → mandate)**

Boards/CIOs define why real estate is held (income, diversification, inflation-hedge), how much return (often ~6-12%), and governance guardrails. These choices are translated into investment mandates/IMAs that set allocation ranges, styles (core/value-add/opportunistic), geographies/sectors, leverage limits, permitted vehicles, and reporting/ESG expectations (often done on fund level) (Baum & Hartzell, 2021).

### **(Business) strategy (vehicle and market choices)**

Quadrants and vehicles are selected in line with mandate and capability. Separate accounts and CREFs deliver tailoring and diversification, respectively (Ling & Archer, 2018). For higher-beta sleeves, closed-end private-equity real-estate funds use performance-based fees (base fee plus carried interest over a hurdle) to align manager and investor incentives (Baum & Hartzell, 2021). Institutions also decide whether to integrate listed and unlisted in one branch; many segregate them, reflecting governance preferences and benchmarking conventions (Baum & Hartzell, 2021).

### **Operation(al strategy) (execution & oversight)**

Mandates are delivered through asset & property management and specialist processes (underwriting, financing, due diligence, capex, leasing). Asset managers in institutional settings also source assets, line up financing, negotiate price, and oversee due diligence/closing-tasks that distinguish them from public-securities managers (Ling & Archer, 2018). Extensive governance in unlisted funds (decision rights, valuation cadence, fee/carry, key-person/removal, conflicts protocols) reduces information asymmetry and operational risk, supporting mandate compliance over long, illiquid holding periods (Baum & Hartzell, 2021).

**Synthesis;** institutional investor characteristics (risk, liquidity need, in-house capability) map to quadrants and styles; institutions translate ALM-driven policy into mandates that specify vehicle mix and constraints; business strategy chooses the implementation route (separate accounts, CREFs, PERE funds, REITs, CMBS); and operations-via asset and property management-turn those mandates into cash flows and controllable risk (Baum & Hartzell, 2021; Ling & Archer, 2018).

### **2.2.3 How Mandates Drive Data (Needs)**

Negotiation in RED is at its core, an evidence-led exchange of information through which parties price risk, allocate responsibilities, and convert assumptions into verifiable terms (Nezami et al., 2022). Transparency therefore hinges on mapping which facts are disclosed, when, and for what decisions (screening, feasibility, underwriting, and term setting). Practitioner texts frame this as a sequenced process: the developer first secures control (often by LOI or option), performs preliminary due diligence (planning envelope, market/NOI, and costs), deepens market analysis to produce multi-year cash-flow estimates, lines up financing, and begins tenant dialogues before papering definitive agreements (Peiser & Hamilton, 2012).

In this sequence, the IM organizes the proposition and underwriting sufficient for an investor's conditional interest, while the LOI/NBO describes high-over financials and an exclusivity window that structures the timetable and scope of diligence (price, deposits and refundability, conditions to close, responsibilities, and due-diligence rights) (Peiser & Hamilton, 2012).

What information is asked for-and how it is assessed-follows the earlier elaborated cascading logic from the investor's corporate strategy (policy) to its business and operational strategies. At the top, boards/CIOs decide *why* the institution holds real estate (income, diversification, inflation hedging), *how much* within long-term allocation ranges, and the governance guardrails (risk, leverage, geography/sector, vehicle set, reporting, ESG). These high-level choices are embedded in investment mandates/IMAs that function as binding filters during screening and diligence;

**What does that mean for data (exchange), and how it is used?** Project data arriving via the IM and data room (leases, capex plans, designs, budgets, debt terms) is tested for consistency with the guardrails recorded in the investment mandates before moving to a binding decision (Baum & Hartzell, 2021; Peiser & Hamilton, 2012). Within that policy, business strategy determines *where and how* to deploy capital across the real-estate “routes to exposure” (direct assets, REITs/listed property companies, core unlisted funds, multi-manager), balancing diversification needs, mandate fit, and benchmarking conventions; unlisted fund structures exist to achieve scale and diversification that many direct portfolios cannot, and they have distinct risk/return sleeves (core (+), value-add, opportunistic) and incentive designs (e.g., carry over a hurdle in a closed-end private-equity funds) that shape what evidence sponsors must provide and how value-creation milestones are negotiated (Baum & Hartzell, 2021).

Lastly, operational strategy defines the “information plumbing” of a deal: model standards and audit trails, third-party reports, lease abstractions, construction budgets (often funnelling towards GMP (Guaranteed Maximum Price), and periodic reporting adhering to the fund’s governance (decision rights, valuation cadence, key-person/removal, conflicts protocols), all aimed at reducing information asymmetry over long, illiquid holding periods (Baum & Hartzell, 2021; Peiser & Hamilton, 2012).

As this policy-to-operations cascade meets the project, requirements back-propagate: on receiving more detailed information, the investor translates mandate criteria into project-specific performance obligations (e.g., sector/geography fit, leverage and covenant limits, sustainability/reporting standards, tenant and design outcomes), typically communicated through a *PvE/PoR*. The developer, in turn, iterates design to prove that these specifications can be met at a certain cost of capital—supported by market evidence, cost plans, and lease prospects generated through the feasibility phase (Peiser & Hamilton, 2012).

**Synthesis;** the IM triggers conditional interest; the LOI/NBO creates a protected window to test claims; and the investor’s policy, business-model, and operational governance jointly determine **which** data must be exchanged, **how** it is validated, and **which** performance and reporting duties are ultimately embedded in the transaction—so the final deal is based on verified information (reverified in final DD window (further elaborated in the following)) rather than assumption (Baum & Hartzell, 2021; Peiser & Hamilton, 2012).

## 2.3 OBLIGATIONS & LEGISLATION

While organisational characteristics and mandates shape the objectives of both parties, their behaviour during negotiations is further influenced by formal and informal obligations that govern data exchange and negotiation norms. The following section outlines these constraints to set out the formal and informal structural boundaries that affect negotiation dynamics.

### 2.3.1 Dutch Law

Dutch law sets obligations surrounding transactions and its respective data exchange. Together with Dutch contract law, rulesets are applied to the negotiations and dealmaking in this inquiry.

Depending on the 'collaboration' type between the stakeholders, there are different responsibilities, partially assisted by different contract types (different commitment - different contracts (introducing contract law)). The different agreements between the stakeholders, define the commitments made during the deal-making of a RED process (Miles et al., 2015).

To maintain a focused scope, the following only delves into obligations surrounding turnkey/forward purchase contracts and data sharing. Dutch law is reviewed to understand the regulatory/legal commitments.

Dutch law has specified obligations and necessities in transactions of all different (asset) kinds, as to be found in the civil code (burgerlijk wetboek). These codes are everchanging (as per 01-07-2025 new changes will be adapted) but significant changes to the law—which have a significant influence—often are disclosed and known earlier (this research threads according to the laws applicable in the period 8<sup>th</sup> November 2024 - 1<sup>st</sup> July 2025). Due to the nature of 'collaboration' as specified earlier, the deal-making serves as a transactional procedure, which is ought to abide by Dutch law regarding transactions of goods. The way that the information is obligatorily shared, falls within this scope of responsibilities. The practical mechanism behind this sharing of data are VDD's (formal) and email (informal). VDD's form a basis for sharing data in real estate transactions, as well as improve transparency, access and security (Huffman, 2003).

### Civil Law

Dutch civil code (burgerlijk wetboek) consists out of 9 'books' covering different parts of Dutch law (wetten.overheid.nl) . These books consist out of different articles further specifying the law. The law's applicable to (real estate) transactions are:

- Boek 3 - Goederen Recht (property law)
- Boek 6 - Verbintenis Recht (law of obligation)
- Boek 7 - Bijzondere Overeenkomsten (special agreements)

Within Boek 7, Title 1 specifically addresses koop en ruil (sale and exchange), with Article 2 establishing the fundamentals of transfer and obligations. These principles come most into play in koopovereenkomsten (purchase agreements), which form the legal backbone of most real estate transactions.

A unique feature of real estate contracts in the Netherlands is the frequent use of "as-is" clauses. These explicitly mention that the buyer accepts the property in its current condition, often requiring the buyer to conduct their own due diligence. Under Dutch law, this practice is influenced not just by codified rules but also heavily shaped by case law (jurisprudentie), which defines how courts interpret contractual and legal responsibilities in real-world disputes.

An important concept here is the disclosure warranty - the seller is required to disclose all known material information about the property. However, Dutch law does not obligate the seller to guarantee the relevance of the information, only that all known facts are communicated. This is embedded in Article 7:17 BW, Article 17(2), which often serves as the legal foundation for said "as-is" stipulations. This creates opportunity for parties to data 'dump', emphasizing importance of trust and incentive alignment.

In many real estate contracts, there is an explicit clause referencing Article 7:17(2), either directly or via an appendix, to protect sellers from liability for defects the buyer could have reasonably discovered themselves. This balance between duty to disclose and buyer responsibility forms a central legal tension in Dutch property law.

### Contractual Clauses – Risk Allocation

In the FP/TK deal context, contractual clauses serve three intertwined functions (Ling et al., 2018):

- Allocate Risk
- Mitigate Uncertainty
- Define Remedies

When a transaction happens under significant uncertainty, broad contractual buffers are introduced to define liability. The different clauses matched to their function with their Dutch name, are set out in a table which can be found in the appendix.

### Haviltex Criterion – Dutch Contract Law

Haviltex refers to the haviltex criterion in Dutch law, defining informal or implicit factors that apply to contract law. Under Dutch law, contract interpretation follows the Haviltex criterion, which prioritizes the parties' reasonable mutual understandings over literal word usage. However, in commercially drafted contracts between professional parties, the word usage is more significant, while it still occurs under the Haviltex framework. An 'entire-agreement' clause does not displace Haviltex. It is one contextual factor and does not by itself counteract it.

Even though the parties involved in the inquiry context can be deemed professionals, haviltex translates informal obligations into applicable negotiation terms, further enhancing the importance of clear communication to enable mutual understanding. This results in the question how informal obligations shape behaviour.

Together, the structure of civil law and the standard contractual practices (including the "as-is" and disclosure mechanisms) influence how responsibilities and risks are allocated, and thereby how financing structures are negotiated and arranged. Uncertainty causes contractual buffers, which undermine allocative efficiency and trust. At the same

**What does this mean for a potential framework?** Because signing and closing are separated in time, SPAs must specify remedies for non-performance and a neutral escrow mechanism. If a party defaults, "an aggrieved seller may (1) sue for damages, (2) retain the earnest money deposit as liquidated damages, or (3) agree to rescission," while "an aggrieved buyer may (1) sue for damages, (2) agree to rescission, or (3) sue for specific performance"—the latter a common remedy in real estate given land's uniqueness and the difficulty of valuing damages' (Ling & Archer, 2018). To reduce execution risk, transactions often close through escrow, where a third party holds funds and documents and releases them only once "all other conditions [are] met," delivering deed to the buyer and price to the seller ((Ling & Archer, 2018).

### 2.3.2 Informal Obligations

Despite formal obligations determining a significant part of negotiations, informal obligations play a crucial role in negotiation (dynamics). Together with theories explaining the interdependence and the nature of collaboration dynamics between institutional investors and developers, the following explains each parties position in dealmaking, and how asymmetry is inherently part of negotiations.

#### Exploring Dynamics, Barriers & Incentives – Theoretical Lenses

By utilizing the following theoretical lenses, the theoretical perspectives highlight different aspects of the relationship between investors and developers, providing a multi-layered explanation of *why* asymmetry, and tensions arise and how it can be managed.

Starting with RBV, the Resource-Based View (Barney, 1991) emphasizes that organizations gain competitive advantage through resources that are valuable, rare, inimitable, and non-substitutable (VRIN). In the deal-making phase of RED's, developers hold such resources in the form of specialized knowledge and capabilities. These include expertise in navigating regulatory processes, established networks with contractors, or skill in securing tenants in advance of completion. In the FP/TK context, this can be translated into the production of the asset, as the developer is responsible for delivering the asset in the negotiated state. Institutional investors typically lack these resources, which is precisely why they engage in partnerships rather than internalizing the entire development process. RBV thus reframes asymmetry not only as a source of risk but also as an expression of the developer's strategic value. By recognizing developer expertise as a unique resource, investors can design due diligence processes and partnership structures that both protect against uncertainty and leverage the value-creating potential of the developer's knowledge.

Where RBV highlights the competitive advantage stakeholders hold at the negotiation table, RDT emphasizes the dependent nature of the negotiation. Resource Dependence Theory, advanced by Pfeffer and Salancik (1978), highlights that no organization is fully self-sufficient. Instead, organizations depend on external parties for critical resources, creating patterns of power and interdependence. In RED, developers depend on investors for capital, while investors depend on developers for execution and project specific knowledge. This mutual dependence shapes negotiation outcomes during deal-making and explains the balance of power in structuring agreements. Mechanisms such as joint decision-making committees, staged equity contributions, or shared control over contingency funds can be interpreted as strategies to manage and rebalance dependence between the parties. RDT helps reframe attention from purely contractual arrangements to the broader relational dynamics that govern investor-developer collaboration.

TCT explains that both parties profit if resources and negotiations are managed efficiently. Transaction Cost Theory, originally developed by Coase (1937) and later elaborated by Williamson (1985), explains that making transactions is not cost-free. Apart from the direct costs of production, organizations incur costs when they search for information, negotiate contracts, and monitor compliance. When uncertainty and information asymmetry are present, transaction costs rise because parties must protect themselves against opportunism. In the context of RED, investors face such costs when developers hold private information about construction costs, schedules, or leasing pipelines. To mitigate these risks, investors rely on governance structures such as milestone-based disbursements, reporting requirements, or contractual rights to audits. TCT is therefore particularly relevant for this study because it explains why contractual safeguards and monitoring mechanisms emerge in investor-developer

relationships as a response to information asymmetry.

From the perspective of TCT, complying to data needs as soon as possible is incentivized for both parties if it does not create conflict with other objectives—like maintaining competitive advantage. Transparency thus becomes ideal, where controlled transparency is the realistic variant in which transparency is controlled to not conflict with the other objectives of the stakeholders.

Taken together, these three theories provide a comprehensive foundation for analysing interdependence and negotiation leverage. RBV highlights that developer-specific knowledge and capabilities, while a source of asymmetry, are also a source of strategic value for the investor. RDT explains the mutual dependence that arises when both parties control distinct but complementary resources, leading to negotiations over governance and control. TCT emphasizes the need/incentive to reduce transaction costs, by controlled sharing of resources.

Through these lenses, it becomes evident that data that serves the competitive advantage has a strategic position in negotiations, as it is a vital resource to both sides. This means, mitigating (information) asymmetry is in the interest of both parties, if its strategic value is not lost. What the theoretical lenses also portray, is that even though transparency and being able to completely trust the opposing party would be a solution, the risk inherent to this transparency is losing the competitive advantage. Negotiations however are inherently competitive, and if a party loses its leverage in negotiations, how are their goals met?

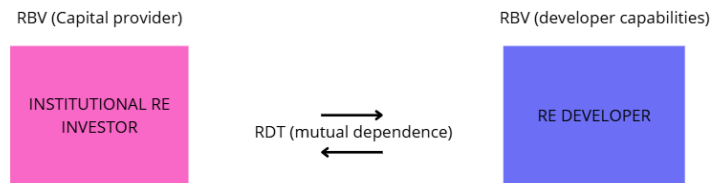


Figure 3: Mutual Theoretical Dependence Visualised

## Managing Trust & Relationship

Trust is a vital part of shaping negotiations and negotiation efficiency. Trust offsets the assumption of opportunism often embedded in shaping contracts, lowers perceived information asymmetry, and encourages earlier disclosure of information (Wiesweg, 2022). Establishing trust during initial negotiations creates behavioural norms that influence technical, legal, and data exchanges (Wiesweg, 2022). As trust enables more transparent data-sharing, structured—and thus 'more transparent' data-sharing generates trust. Collaboration and open data access strengthen relations, whereas restrictive policies erode it (Nezami et al., 2021).

By defining information categories, timing, and verification methods, structured data sharing turns transparency into reliability. Predictable disclosure sequences and standardized formats limit ambiguity, allowing parties to validate data objectively and preventing tactical withholding. This procedural clarity builds confidence in both the data and the counterparty's intentions. Formalizing trust through milestone-based disclosure ensures consistency with institutional review cycles (Rank et al., 2023). Empirical evidence shows that well-governed trust produces symmetry: developers gain assurance that transparency will not be exploited, and investors gain confidence in early risk communication (Wiesweg, 2022 & 2023). Over time, repeated partnerships standardize vocabulary and documentation, reducing friction and improving valuation comparability (Nezami et al., 2021).

Trust, when deliberately institutionalized through structured data-sharing, becomes an operational determinant—shaping transaction costs, negotiation speed, and re-trade likelihood (Wiesweg, 2022).

## 2.4 DATA (EXCHANGE) DURING DEALMAKING

Given the capital-intensive nature of real estate, careful analysis of data is necessary to ensure informed decision-making (Renigier-Bilozor et al., 2020). This is also part of the motivation for this inquiry to assess institutional investments—therefore institutional investors—as the sheer volume of data concerning large-capital intensive projects increases the impact of better assessment/analyzation of data.

The ability to transform raw data into actionable information often determines the success or failure of a project (Miles et al., 2015). As elaborated in chapter 2.2, while both developers and institutional investors rely on data, the positioning of the data differs. The types of data that are known to both parties also differs. Due to the developer being the 'asset producer', the characteristics, attributes and operations of the asset/property can be assumed to be known to them. However, even for them some attributes are not certain, as a buildings' design still changes—as well as discrepancies between what investor mandate demands, and what the design already possesses (deltas).

Following the prior chapters that define the dealmaking process context and structural boundaries that shape negotiation and data exchange behaviour, this section further delves into data exchange during the dealmaking process, (partially) defining negotiations. This way, the evolving nature of data through the dealmaking process becomes clear, as well as its strategic value. This enables the determination of the most information (exchange) heavy processes, to determine where a framework is most applicable and beneficial.

### 2.4.1 The Framework Context - The NBO/LOI—SPA Corridor

Building on the process context as established in chapter 2.1, the focus now shifts to the specific data exchange within the NBO/LOI-SPA corridor. As defined in section 2.1.4, the signing of the NBO/LOI triggers an exclusivity clause which makes information exchange time-bound, and where efficiency becomes a joint objective (Ling et al., 2016). For this reason, the scope of the inquiry is deliberately concentrated on the interval between the NBO/LOI and the definitive transaction/purchase agreement. Additionally, this is also the period in which information asymmetries are at their peak, due diligence is executed, valuation and risk allocation take form, and most conditionalities are satisfied or repriced.

This is the time in which a developer has the highest competitive advantage, while their (data-)resource dependence is at its highest. As the conditionalities are satisfied or repriced aspect per aspect, and additional information is requested (through formal (Q&A/data room) or informal (email/phone)) and delivered, this timeframe is also the most likely to increase re-trades. Consequently increasing inefficiency—as well as transaction cost.

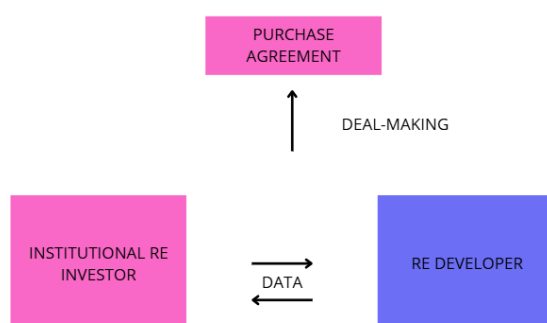


Figure 4: Data exchange in the NBO/LOI→SPA Corridor

This illustration captures the data exchange after NBO/LOI between developer and institutional investor during diligence, with negotiation translating findings into SPA clauses and/or pricing conditions (flow positioning of 'DEAL-MAKING' in image)—consistent with institutional process frameworks that explicitly list contract negotiation as the bridge between screening and documentation (Roulac, 1996).

Because the window is both decision-dense and time-compressed, a structured framework has the highest potential impact here: it can standardize the flow, timing, and quality of information (quality here being 'useful' information instead of a data 'dump'), reduce coordination costs, and improve the alignment between the investor's mandate and the developer's delivery capacity.

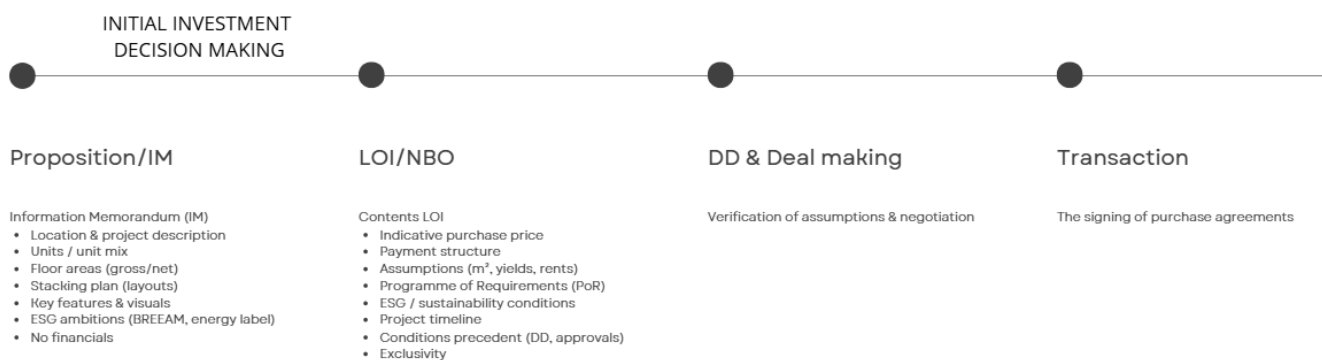
## 2.4.2 Staged Data Usage/Sharing

To establish the position of data and types of data in negotiations, the staged usage/exchange from NBO/LOI to closing is set out. This creates a clear point of departure on what data is actually discussed and negotiated.

After a NBO/LOI, RED dealmaking moves through a tightly sequenced cycle of verification (DD) and negotiations that results in a definitive sale and purchase agreement (SPA) and closing. If agreement is reached, "the letter of intent is converted into a formal purchase and sale agreement," which can range from a cash purchase to a joint venture or an option structure (Miles et al., 2015). However in this case, it results in a turnkey/forward purchase structure.

While the NBO/LOI outlines the economic headline as detailed in section 2.1.4, the post-LOI period is an exclusivity window in which the investor verifies the assumptions embedded in the information in the IM and LOI—areas, rent and yield assumptions, stacking plans, ESG/PoR requirements, timeline, and conditions precedent. In competitive disposals, "much of the due diligence may occur in a physical or virtual 'data room' prior to bid submission"; otherwise, it occurs "within a period negotiated in the purchase and sale agreement." The SPA then "stipulates the price and manner of payment, include[s] warranties and representations of the buyer and seller, and addresses administrative matters such as... estoppel certificates, and assignments" (Miles et al., 2015).

At the institutional level, due diligence and negotiation are embedded in a broader investment process—opportunity screening → counterparty due diligence (CDD) → contract negotiation → property due diligence → documentation and compliance—that links asset-level decisions to investment-program mandates (Roulac, 1996).



*Figure 5: The Dealmaking process and their markings*

The illustration above creates oversight by staging the negotiation by marking the different stages and their data characteristics. The sequence—Proposition/IM → LOI/NBO → DD & Dealmaking → Transaction—aligns with the documented sequence in Miles et al. (2015): marketing and bid process, LOI setting terms, diligence within SPA-negotiated periods (often supported by a data room), and a SPA that stipulates price, payment method, representations & warranties (R&Ws), and closing deliverables.

**Synthesis;** This section narrows down the definition of 'negotiation' in a potential framework context. Instead of assessing the deal making phase as a broad process of negotiations that cover the entire deal making phase, the focus is channelled towards the negotiations after NBO/LOI, where fundamental data is already determined. Together with the findings of the section 2.2.3, this maps how staged data is shared, (in) what (detail) data is shared, and what it is based on. The proposition/IM is sent out by the developer, whereafter the investor shares a LOI/NBO and their preferences (based on the drivers assessed in chapter 2.2) coded in a PoR/PvE. After this, the developer provides additional data towards the transaction closing, based on the verification of assumptions requested by the investor.

## 2.5 NEGOTIATION DATA

The data that is negotiated does not concern all data that is shared. For this reason the following section sets out the specific data that is negotiated and forms part of the negotiation process.

Negotiations in the defined corridor consist out of a multitude of subjects. As the earlier exploration of the practical entry of the dealmaking phase portrays, the LOI/NBO forms a template, guiding the initial direction of negotiations. Practitioners stated that in the Dutch context the principal negotiation topics are based on the trade-off (1) what the asset consists out of (asset specification) vs its (2) price and how the ownership, capital, and risk is transferred/allocated. The following delves into the trade-off of the two components asset specifications and price.

### 2.5.1 Asset Specifications

In a forward purchase/turn-key setting, the parties must translate “what is being bought” into precise plans, performance standards, and delivery conditions, because price is agreed before completion. *What is being bought* is defined as asset specifications.

Asset specifications consist out of (Miles et al., 2015):

- Physical & design specifications
  - o What is built & its quality
- Legal & regulatory specifications
  - o What may be built, and how its owned
- Functional & operational specifications
  - o How it performs and is used
- Financial & valuation parameters
  - o How it generates and preserves value
- Location & market context
  - o Where it sits and under what market conditions

The negotiation topics surrounding asset specifications consist out of (Miles et al., 2015; Ling & Archer, 2018; Edelstein & Green, 2019):

- Scope, plans, and approvals
- Completion and delivery condition
- Quality assurance, warranties, and O&M transfer
- Changes and substitutions
- Sustainability and building performance
- Data and deliverables supporting specification

When assessing negotiation topics surrounding asset specifications, the mentioned asset specification categories overlap. For instance, changes and substitutions both fall under physical & design specifications, and financial & valuation parameters ('data vs negotiation topics'). This means that the fragmented (shared) data serves multiple purposes in negotiations (Kohlhepp, 2012).

Taken together the negotiation trade-off—determining what is being bought for what price, the function of data becomes more relevant, which is (mainly) determined by the drivers of both parties.

## 2.5.2 Price – Ownership Transfer, Payment Structure & Risk Allocation

The price that is negotiated is not just based on what the asset is going to be, but also on who bears what risk, and guarantees. This component of the negotiation trade-off consists out of (Peiser & Hamilton, 2012):

- Price
  - o What value is exchanged
- Payment structure
  - o When and how value is transferred
- Risk allocation
  - o Who bears which risks and uncertainties between signing and handover

While risk allocation is often said to not be standardizable, FP/TK agreements already sets most risks surrounding asset specifications (idiosyncratic risk, elaborated in the residual uncertainty section) on the developer as this concerns the delivery of the asset.

As the transactions within the context are high-volume, payment structure and deposits accompany this price aspect of negotiations. The negotiated price is contingent on the asset meeting requirements and time of completion. Uncertainty on meeting the requirements is followed by premia, and contractual clauses (Baum & Crosby, 2008). This results in the opaque contractual buffers and valuation drift, as the different approaches to uncertainty impact its interpretation and subsequent translation in price and contract.

Even though, ownership transfer is mostly standardized and embedded in payment structure, divergence in economic and legal ownership of institutional investment entities—depending on the investor, separate this in the negotiation. It is linked to delivery and final payment. Due to this embedding, ownership transfer will be assessed as part of payment structure.

The negotiation topics surrounding price (incorporating payment structure & risk allocation) consist out of (Miles et al., 2015):

- Price and payment structure
- Deposits and exclusivity ((partially)embedded in LOI/NBO)
- Representations & warranties (R&Ws) and pre-closing covenants
- Title, conditions, and contingencies
- Assignment rights
- Costs and closing mechanics

**Synthesis;** By setting out the different components of asset specification and price—as well as the negotiation topics surrounding them, oversight of the function of different information is created. Understanding the overlap in the different categories of information—that determine asset specs and price with the negotiation topics, creates the foundation for defining efficient negotiation.

### 2.5.3 Principles Of Efficient Negotiation – Processing Data

After defining what the context of data exchange is, what drives data needs based on their purpose, which data shapes negotiations, and finally how this translates into negotiations between investors and developers, efficient negotiation principles can be linked to processing data.

As the negotiation topics concerning both asset specifications and price, do not consist out 1 singular aspect of asset specifications or pricing (seen in the overlap of 'data vs negotiation topics'), the drivers of the negotiating parties can serve as a guardrail for understanding the different data flows. While the developer is the asset producer, the asset specifications and their understanding is inherent to his expertise.

Effective negotiation in Dutch FP/TK transactions depends on aligning the informational, procedural and relational aspects of dealmaking so that both parties of the negotiation can act with greater certainty early in the dealmaking phase (Greenberg, 2015). An efficient approach to these negotiations starts with understanding that the transactions occur in an inherently illiquid, localized and segmented market environment, where this illiquidity and immobility of assets make standardized evaluations difficult (Ling & Archer, 2018). Unlike other (investment) asset classes where market prices are impacted by continuous exchange and broadly available data, pricing in real estate is constructed from fragmented datasets that can highly vary in vocabulary and format.

This trait emphasises the importance of composing a negotiation process that disciplines information flows to avoid unneeded double analysis or mid negotiation valuation recalibration. Accordingly both segmentation and standardization can function as enhancers of information flows.

As price is based on the asset specifications and separation of its different components cannot necessarily be proven to be of significance, the information flow of asset specifications heavily influences the assessment of an asset by an investor.

A practical application of a disciplined information flow is the structured separation of asset specifications, as different data surrounding asset specification serve different negotiation purposes (once again referring to the data vs negotiation topics) This prevents bottlenecks caused by agenda overlap, where a developer's design details (which in-practice insights portray as a tension as developers sense a lack of expertise), becomes intertwined with an investors' diversification strategy assessment. This disciplined information flow in turn allows focused discussion on the different negotiation topics without mixing adjustments with strategy shifts (Moorhead et.al., 2024).

A clear example for this is that unit-mix and GFA can be finalized independently of ESG related compliance at portfolio level. This segmentation can facilitate the acceleration of initial underwriting as fixed physical parameters can be mapped into their valuation models.

Using the investor drivers to segment asset specifications—as the developers' expertise lays in the asset production, segmentation of asset specifications can be:

- Mandate requirements
- Financial performance drivers
- Design specifications ('nice-to-haves')

This channels the information surrounding asset specification into three clear categories coherent with the investor workflow and decision-making, creating a clear oversight of data needs from the investor for the developer.

### **2.5.4 Risk & Uncertainty As An External Data Component**

While risk and risk allocation are actively negotiated and discussed during negotiations, this research proposes an external risk & uncertainty component as these concepts require their own governance logic. The concepts are not just dependant on both parties, nor their available information. According to Knight (1921), uncertainty exists because negotiating parties cannot know certainly what the future holds. This is especially important in this research as the subject of negotiation concerns a probabilistic future. External factors like market fluctuations, regulatory changes or technological advancements are out of the spectrum of controllability, which significantly impacts the negotiation context (Langlois & Cosgel, 1993). These external uncertainties causes valuation and assumption divergence between developers and investors due to their divergent approaches to uncertainty and risk (miles et.al., 2015). Apart from this, it increases information-asymmetry, as not all risks and assumptions/expectations are shared transparently (McAllister, 2019).

## 2.6 THE IMPACT OF RISK & UNCERTAINTY

Risk & uncertainty play a vital role in negotiations—as the different approaches to them amplify the current problems that are present in negotiations between the parties. These concepts are embedded in valuation logic and scenario planning, thus their interpretation is instrumental.

After initial data exchange, uncertainties arise as information is not fully disclosed (strategically) or simply not present due to discrepancies between the investors' preference and the standing design. These uncertainties are defined in this research as *residual uncertainties*.

While the uncertainties and risks greatly impact a deal, residual uncertainties often implicitly impact negotiations by impacting pricing and contract logic. To assess them, the distinction between risk and uncertainty—foundational to economic theory, must first be clarified.

### 2.6.1 Risk, Uncertainty & Profit

Different approaches to risk and uncertainty shape decision-making. As established by Knight (1921), risk concerns events that can be categorized into classes with known or well-approximated frequency distributions. Investment under risk can be controlled through actuarial tools like diversification, insurance, and pricing according to expected values (Baum & Hartzell, 2021). Uncertainty on the other hand, concerns unique non-classifiable situations in which even relevant categories of action are ill-defined, which makes it difficult to assign probabilities and insure against. While risk consists out of known probabilities, uncertainty does not. This makes them hard to quantify and subsequently actuarial tools to mitigate them like diversification, insurance & pricing become hard to execute. Adapting this logic, risks and uncertainties are bound and can be placed on a spectrum. Risks consist out of well approximated probabilities while they cannot always be fully approximated, thus being partially uncertain.

Due to many variables—in the inquiry asset specificity being one, novel states are bound to happen and cannot be specified *ex ante*. For this reason, both parties strive to turn uncertainty into risk, to be able to control outcomes.

By providing information on an asset, the developer can mitigate uncertainties surrounding an asset as this turns unknown probabilities into approximate probabilities. If information is not yet shared, these uncertainties significantly influence negotiation duration.

### Types Of Uncertainty

Uncertainties can be subdivided into systematic and idiosyncratic uncertainties, the latter meaning asset/project specific uncertainties (Hull, 2022). These project specific uncertainties lay on the responsibility side of the developer, as he is the party responsible for producing the 'product' and thus the owner of the idiosyncratic data (Peiser et al., 2015). This forms the basis for knowing who owns which data to assess who can mitigate what uncertainty, enabling explicit agreements that assign data-management duties (Nezami et al., 2022) Consequently, this determines which way pricing or contractual anchoring should move.

As stated by Byrne (1996) "If the developer underestimates the risks pertaining to the project, then the value is correspondingly overestimated... Research has shown that property developers consistently underestimate the risk...". This emphasizes that the different approaches to risk amplify valuation spreads.

The reason this is particularly important in the two types of uncertainty, is the fact that systematic uncertainty is often researched by both parties separately with market data, while idiosyncratic uncertainty can only be assessed by the investor with data they receive concerning the asset thus from the developer.

## 2.6.2 Residual Uncertainty

The difference between risk and uncertainty reflects the problematic impact uncertainty yields. By basing valuation and contracts on uncertain variables, the approaches to uncertainty become increasingly influential on determining price and contract terms. As the divergence in risk and uncertainty approaches is significant, this divergence is in turn translated into valuation drift and opaque contractual buffers and raises the probability of re-trades.

In Dutch FP/TK transactions, residual uncertainty consist out of unresolved exposures that persist from the NBO/LOI-SPA corridor until closing, and some of which persist after closing e.g. interest-volatility, inflation on construction and OpEx, evolving ESG/code compliance.

A possibility is that information is incomplete—which can be due to several factors such as timing (impacting the availability of data). Because of this, uncertainty arises as the outcomes may occur but their probabilities cannot yet be credibly specified at the decision stage. In development appraisal, this can be tied to input variables—rents, yields, costs, finance, approvals—that cannot yet be verified. Where probabilities cannot be assigned, the result is uncertainty (Loizou & French, 2012).

This residual uncertainty is an implicit driver of how parties trade price, time, and—if needed—contractual protections. Real-estate markets are information-imperfect and parties explicitly balance price against time-to-close and the quality of written assurances, which is exactly how residual uncertainty is priced (Edelstein & Green, 2019). In other words: during negotiations, uncertainties that cannot be mitigated through data, get contractually anchored and/or priced.

For this reason, this research differentiates residuals depending on timing. Residual uncertainty between NBO/LOI & SPA triggers extra verification of assumptions during DD, whereas residual uncertainty after closing are met with opaque contractual buffers or pricing divergence. Both residual uncertainty types serve the purpose of creating a clear definition of what remains uncertain, making data needs tangible.

**Synthesis;** By mapping residual uncertainty, the concept initially has the potential to balance transparency by defining explicit data needs, allowing both parties to address the party that owns the data to mitigate the uncertainty. When these uncertainties are projected to maintain uncertain after closing, the residuals can guide discussions on risk and uncertainty allocation, making assumptions easier to defend.

### 2.6.3 Assessing Residual Uncertainty

The concept residual uncertainty can be leveraged to determine data needs. By making residual uncertainty explicit, they can be assessed during negotiations. However, if explicitly used in negotiations, how to use them? Value of information (VOI) explains why it matters to quantify residual uncertainty: reducing uncertainty enables more confident, efficient decisions, and in deals within the inquiry context, this means tighter pricing and clearer terms. The following builds on the earlier distinction between uncertainty and risk, and delves into the different aspects of this concept, and draws on multiple theories to facilitate the assessment.

#### Initial Analytic Filter – Materiality & Parsimony

Before uncertainty can be quantified, the relevant variables must be determined. Not every uncertainty is as relevant. The principles of materiality and parsimony can be applied for this initial analytic filter. Materiality—the quality of being relevant or significant, facilitates focussed attention limited to variables whose variance have a significant impact on financial outcomes or contractual terms (RICS, 2022). This principle, often used in valuation and accounting, prevents minor factors that do not change decision outcomes to be overanalysed. Parsimony—in this context meaning limiting the variables to maintain usefulness, adds feasibility and practical relevance by choosing the simplest possible model that still captures relevant links. Burnham and Anderson (2002) describe this as avoiding overfitting—adding complexity without improving explanatory power. In practice, this means identifying only the small number of residual uncertainties that truly move price or terms. The OECD (2008) also emphasises that combined indicators should be built from a transparent, non-redundant set of inputs, aligning with the goal of clarity and interpretability in quantifying uncertainty. Together, these principles ensure the framework focuses on what is both relevant and manageable.

#### Measuring & Mitigating Uncertainty – Information

After a set of the most significant residuals are selected, these are ought to be assessed. Uncertainty is judged on how uncertain the variable is. In other words, how known or unknown, the probable outcomes are. This can be reduced through better information, which is the core idea linking information theory and decision analysis. Shannon (1948) introduced entropy as a mathematical measure of uncertainty: the higher the entropy, the less certain we are about an outcome. When new data or shared knowledge reduce that uncertainty, it is defined as information gain (IG). This theoretical foundation allows uncertainty to be expressed as a measurable quantity instead of a subjective impression. Similarly, decision-analysis literature (Howard, 1966; Raiffa & Schlaifer, 1961) defines the value of information (VOI); the expected improvement in decision quality resulting from reduced uncertainty by information. In a contractual and market context, incomplete contracts theory (Grossman & Hart, 1986) and information economics models (Akerlof, 1970; Glosten & Milgrom, 1985) portray that when information asymmetry is reduced, price spreads narrow and allocation becomes more efficient. These theories justify why quantifying and mitigating uncertainty through data sharing, standardisation, or clear contract design can directly improve pricing accuracy and negotiation outcomes.

## Judging Uncertainty – Probability & Impact

The outcomes and probabilities of risks and uncertainties impact their position of relevance. Standard risk assessment practices judge uncertainty and risk based on their likelihood and consequence/impact (ISO 31000). Subsequently, once key uncertainties are identified, they must be judged in the same way. Decision-analysis theory provides the foundation for representing uncertain beliefs as probabilities. Raiffa & Schlaifer (1961) and Howard (1966) established that subjective and market-based probabilities can rationally express belief under uncertainty. This allows decision-makers to describe how likely each state of a variable is, even when objective data is limited. The impact dimension connects these probabilities to economic outcomes. Standard risk-assessment frameworks (ISO 31000; IEC 31010) express risk as the combination of likelihood and consequence, usually represented on a qualitative scale. Applying this to real-estate decision-making means assessing how much each uncertainty would change value, yield, or contractual terms. Together, probability and impact provide a structured and comparable way to express judgment about uncertainty, turning qualitative perceptions into quantifiable inputs for analysis.

**Synthesis;** Residual uncertainty can provide a guardrail for data need, and subsequently improve negotiation outcomes when explicitly assessed. Using information theory, reducing uncertainty is linked to enhancing pricing and contract accuracy. To enable analysis, key uncertainties with significant outcomes are considered. These selected uncertainties are quantified using existing concepts like entropy. Lastly, probability and impact provide a structured judgment of uncertainty following risk assessment standards.

## 2.7 SYNTHESIS - IMPLICATIONS FOR A FRAMEWORK

Using the literature, the following integrates, abstracts and translates the findings from the literature review into implications for a framework.

The literature review reveals that inefficiencies in the NBO/LOI-SPA corridor do not stem from absence of information, but from misalignment in timing, format, comparability, and strategic incentives. Through the reviewed theories—RBV, RDT & TCT, a consistent implication surfaces: data serves as both a competitive resource and a dependency, while asymmetry of this resource can increase transaction cost. This positions structured, staged and controlled transparency as a mechanism that can enhance negotiation (efficiency).

Consequently linking the causes with the consequences of the problem, this facilitates the incentives and barriers for adopting a new way that aligns with the informational and organizational needs of both parties. This is also impacted by restrictions and obligations—both formal and informal, on data exchange, as well as negotiations in themselves. This synthesis translates into several implications for the design of an applicable framework.

First, data flows must align with investor organizational cycles to reduce timing asymmetry, while developer workflow must be taken into account in doing so. Secondly, standardized definitions and formats are needed to reduce translation cost and valuation drift. Third, the separation of data flows based on their function in negotiations reduces noise by prioritizing data types. Fourth, the recognition of the significance of operator insights can form a catalysts by adapting expertise early in negotiations.

Finally, making data needs explicit and tangible reduces renegotiation triggers and creates a clearer frame for risk allocation—practically executed by acknowledging residual uncertainty.

Introducing the concept of residual uncertainty allows for a measurable component to data exchange/needs. The concept consists out of 2 components: residuality & uncertainty.

1. Residuality is judged on the extent in which the uncertainty is mitigated (how uncertain is the variable?)
2. Uncertainty—which sits on a spectrum with risk, is judged on its probability and impact

When combining the concepts, the residuals that are most material for pricing and terms can be quantified to form a comparable numeric value, incorporating the mitigation, impact, and how uncertain each variable is—coherent with risk assessment practices and information theory.

Within this context, the implications for a framework crystalize: it must structure the sequencing, comparability, and interpretation of information, without jeopardizing negotiation leverage. It should operationalize transparency, facilitate disclosure routes, and provide a shared way to assess uncertainty. These insights together form the conceptual foundation after which empirical research and a proposed framework is created. This links theoretical inefficiencies with workable solutions.

## 3 Methodology

Preliminary literature review reflected the complexity of the deal-making process as well as the specificity of the real estate development process. This emphasizes the need for a clear scope and framework in which this research is ought to be executed. The following elaborates the methodology used to answer the research questions to achieve the research aims as defined in section 1.3. Before delving into the research design, a specific scope is defined.

### 3.1 SCOPE

This research explores structured data sharing during the dealmaking phase of a TK/FP development in Dutch context. Residential development is used as the main focus to maintain feasibility of the execution of this research. The dealmaking phase is defined as the period from non-binding offer (NBO) to purchase and sale agreement (SPA) and closing, including vendor and buy-side due-diligence. The analysis focuses on how the content, timing, and standardization of information exchange between institutional investors (including the operator and their information needs) and developers affect the visibility and allocation of residual uncertainty and price formation (via NOI/Yield) and contractual protections.

#### 3.1.1 Residential Focus

Initially, this research was intended to enhance data exchange in negotiations across asset classes and contract types. However, due to the complexity of this transferability and multitude of parameters that are emphasized differently per asset type, the inquiry focuses on residential assets. The development of the framework is however designed in a way that maximizes potential for adaptation to other assets. A clear example for this, is the proposed segmentation of asset specifications by categories that are adaptable to all asset classes. This facilitates the potential of extending the findings of this research to other real estate specializations. As the interviews extend beyond professionals that specialize in residential developments, this (potential) transferability is strengthened.

#### 3.1.2 Forward Purchase - Turnkey

When exploring the dealmaking phase of a RED, defined as the dealmaking between institutional investors and developers, many different agreements are used in practice. This research explores the applicability of a structured data sharing framework between the two parties. With other agreements—such as e.g. forward funding, other stakeholders are involved in the responsibility distribution, and payment timing differs; with FP/TK payment typically settles at completion (Loyens & Loeff, 2021). With FP agreements, the distribution of responsibility is between the investors—functioning as the buying party, and the developer—functioning as the asset producer. The developer has responsibility of the asset to be delivered, also aiding in creating an incentive for the developer to mitigate any potential conflicts before, at or after delivery, partially by facilitating better pricing. This also creates an incentive for data sharing, subsequently the adoption of a data sharing solution (framework).

One of the 'flavours' in FP, is TK. While the allocation of responsibilities is essentially the same, a TK agreement typically imposes more stringent guarantees, remedies, and specification details. While FP enables buyers to have more information/approval rights, TK allows less variations once design is fixed. As this research translates data needs into a framework, this could be perceived as a more stringent agreement. Consequently, FP and TK agreements are mentioned together.

**Main differences:**

Core concept (Mayer Brown, 2019):

An important distinction between FP/TK agreements and other agreements, is the level of finish.

TK: deliver a ready-to-use asset under one accountable party

- FP: agree today to buy an asset at completion

Risk allocation (between investor-developer, contractor risk falls under developer) (Hosie, 2007):

- TK: single-point responsibility and fixed time/price concentrated on contractor (build risk)
- FP: risk largely on the developer, but focused on time of transfer

Control/approvals (Mayer Brown, 2019):

- TK: fewer variations in design once fixed
- FP: buyer gets more information/approval rights

Documentation/contract shape (Mayer Brown, 2019)

- TK: purchase & sale agreement for future delivery with tight build-and-deliver obligations (fixed time/price, performance specs, acceptance tests, LDs, performance security, long-stop, step-in, back-to-back warranties) (for developer: typically an underlying EPC/design-build contract)
- FP: purchase & sale agreement for future delivery (including conditions precedent, practical completion tests, transfer mechanics, guarantees/warranties). Often less 'tight' unless negotiated differently

### 3.1.3 Difference LOI & NBO - Their Contents

A NBO is an indicative bid used early to signal value and key terms without commitment; sellers use it to shortlist bidders (Rödl & Partner, 2024). A LOI is a fuller pre-contract that frames deal terms; while many business terms are non-binding, process clauses like exclusivity/no-shop, confidentiality, and governing law are typically binding (Morgan & Westfield, 2021).

Typical NBO content consists out of indicative price/range; underwriting assumptions (NOI, vacancy, capex), basic financing, preliminary timeline, headline conditions, and requested materials (Viaductus, 2025).

Typical LOI content consists out of firm price or pricing formula, deposit size/timing and non-refund triggers, due-diligence scope/access/deadlines, exclusivity/no-shop (binding), confidentiality (binding), closing mechanics and prorations, cost allocation, outline of representations & warranties, approvals/conditions, and governing law (binding) (Morgan & Westfield, 2021).

**What is used?** A NBO is often used to move fast, test valuation, and remain flexible in competitive processes; indicative bids are non-committal but informative for sellers (Quint, 2018)—while a LOI is used to secure exclusivity, define diligence and deposits, and set a clear path to contract and closing (Berry, 2025).

What this means is that with a LOI, a RED is often in a later stage as more information is available, correlating to what type of developer is the selling party. However, for the inquiry—as it looks into the corridor, using the LOI/NBO as the mark of the start of the negotiation process, the following will keep addressing it as a starting point from NBO/LOI.

## 3.2 RESEARCH DESIGN & EXECUTION

Determining the best methods to execute the research is highly dependent on the desired output, and the nature of the research problem (& gap). The desired output of this research consists of a framework that enhances dealmaking.

Literature insights suggest that a data-sharing approach can significantly enhance deal-making by enabling tailored responses to risk changes and aligning developer-investor interests. Expected benefits include:

- Improved project timelines by reducing inefficiencies
- Enhanced advisory capabilities for investors, providing more accurate and proactive risk analysis
- Reduced project costs through better-informed decision-making, leading to minimized delays and enhanced project stability.
- Strengthened relationships between developers and investors through transparency and aligned risk management
- Tighter pricing & terms
- Balance transparency without the loss of competitive advantage

This research provides valuable recommendations on data-sharing in the form of a framework that integrates risk perspectives, ultimately enhancing collaboration and profitability in real estate deals by reducing valuation drift and transaction cost.

The objectives are aimed to be achieved by developing a framework that addresses the bottlenecks inherent in Dutch FP/TK transactions, by translating the observed inefficiencies into operational objectives.

These in turn can be measured in transaction cycle gains, reduced valuation drift, and fewer contract renegotiations. Essentially it is a staged frame for information exchange that responds to both developer timing and institutional governance stages, taking both parties' workflow into account.

This means that the research aims to solve a real-world issue, making the inquiry of pragmatist nature—in which the researcher is a reflective problem solver, iterating between evidence and actionable recommendation. The research goal is to produce knowledge that helps enhance dealmaking—knowledge judged by what it enables practitioners to do (reduce asymmetric uncertainty → improve/better inform pricing & prevent opaque contractual buffers), not by one fixed concept of what is perceived as 'the truth' (Dewey, 1938; assessed in Morgan, 2014). This has several consequences for the research design and its execution.

### 3.2.1 Philosophical Approach & Pragmatism

Due to the emphasis on producing operationally viable solutions to the transaction inefficiencies mentioned, this research adopts a philosophical pragmatic approach. The objective is not to construct an abstract theoretical model detached from in practice realities, but rather to shape a framework that can be applied directly to current dealmaking processes. Other philosophical approaches were considered, which proved less applicable. A positivist approach prioritises measurable variables and causal testing (Kaboub, 2008), which in the inquiry context would require quantification of negotiation behaviour and data asymmetry. This is difficult to execute due to the confidential and context-specific nature of dealmaking. Despite critical realism being a strong approach for examining mechanisms, it assumes hierarchical causal links that are difficult to isolate in relational and iterative negotiation contexts (Fletcher, 2017). Pragmatism was therefore used because it supports methodological pluralism, acknowledges the position of practice-based knowledge, and enables the development of a framework grounded in both theory and practical utility.

Pragmatism facilitates blending the use of empirical observations, existing negotiation theory, and stakeholder narrative whose usefulness is judged by measurable improvements in outcome, shorter negotiation timelines, reduced re-trade cycles, enhanced pricing, and clearer allocation of residual risk & uncertainty.

Conceptually, pragmatism is plural and problem-centred: concepts such as 'residual uncertainty' can be treated as real as long as they have concrete effects on action (Dewey, 1938). Theoretically, knowledge is provisional and instrumental: its value is assessed by how capable it is to improve decisions and outcomes in context (Morgan, 2007).

The complexity of structured data-sharing in this context is due to the multi-actor and multi-layer nature. Developers and institutional investors have different priorities, valuation methods, governance workflows, and appetite for risk.

From a pragmatic point of view, this difference in character emphasizes why methodological pluralism is important. Literature on inter-organisational collaboration and theories to assess their interdependency and mutual goals offer conceptual structuring for aligning inherently different parties through mutually agreed protocols and shared vocabulary (Nezami et al., 2022). However, these must be validated with operational realities captured in semi-structured interviews and internship-based archival analysis of actual negotiation datasets.

Pragmatism allows combining qualitative and theoretical methods, iterative reasoning, and the translation to quantitative tools, as what matters is that the resulting framework closes known gaps—such as the entanglement of assets specifications and mandate-driven requirements, without creating new inefficiencies, and providing multiple lenses in approaching the problem. The validity of this research is not determined by uncovering one single truth, but by producing a credible, useful framework that is capable of improving information alignment in real-world transactions.

### 3.2.2 Sequence Of Methods

Firstly, preliminary literature review revealed the problem/research gap and a hypothesis. It reflected the basic concepts and themes that needed to be understood to conduct the qualitative part of this research. It is also used to see to what extent available literature already answers (parts) of the research questions.

\*themes in this context are defined as coherent explanations of recurring patterns.

For the qualitative research, the concepts enabled for better direction during the conducted internship. The preliminary literature review together with the empirical nuance from the internship enabled the conducting of semi-structured interviews. The choice for semi-structured interviews—as opposed to structured or unstructured interviews—was partially motivated by the fact that preliminary research reflected the complexity of the inquiry. The other main reason, is that one of the criteria for interviewees is having enough 'seniority' in their role, to be able to have enough experience with negotiations, and working with the other stakeholders. As they have more experience, semi-structured interviews uses this experience to find surprising observations.

After the qualitative part of this research, key concepts and themes are developed. These concepts and themes were then explored with additional literature review, based on iterative reasoning. This iteration facilitates the reflection of in practice in sights backed by literature, translated into rules and conditions to develop a framework. During this development, additional literature review was used to explore a framework validation to test the logic. The sequence of methods and positioning of the research questions can be portrayed as follows:

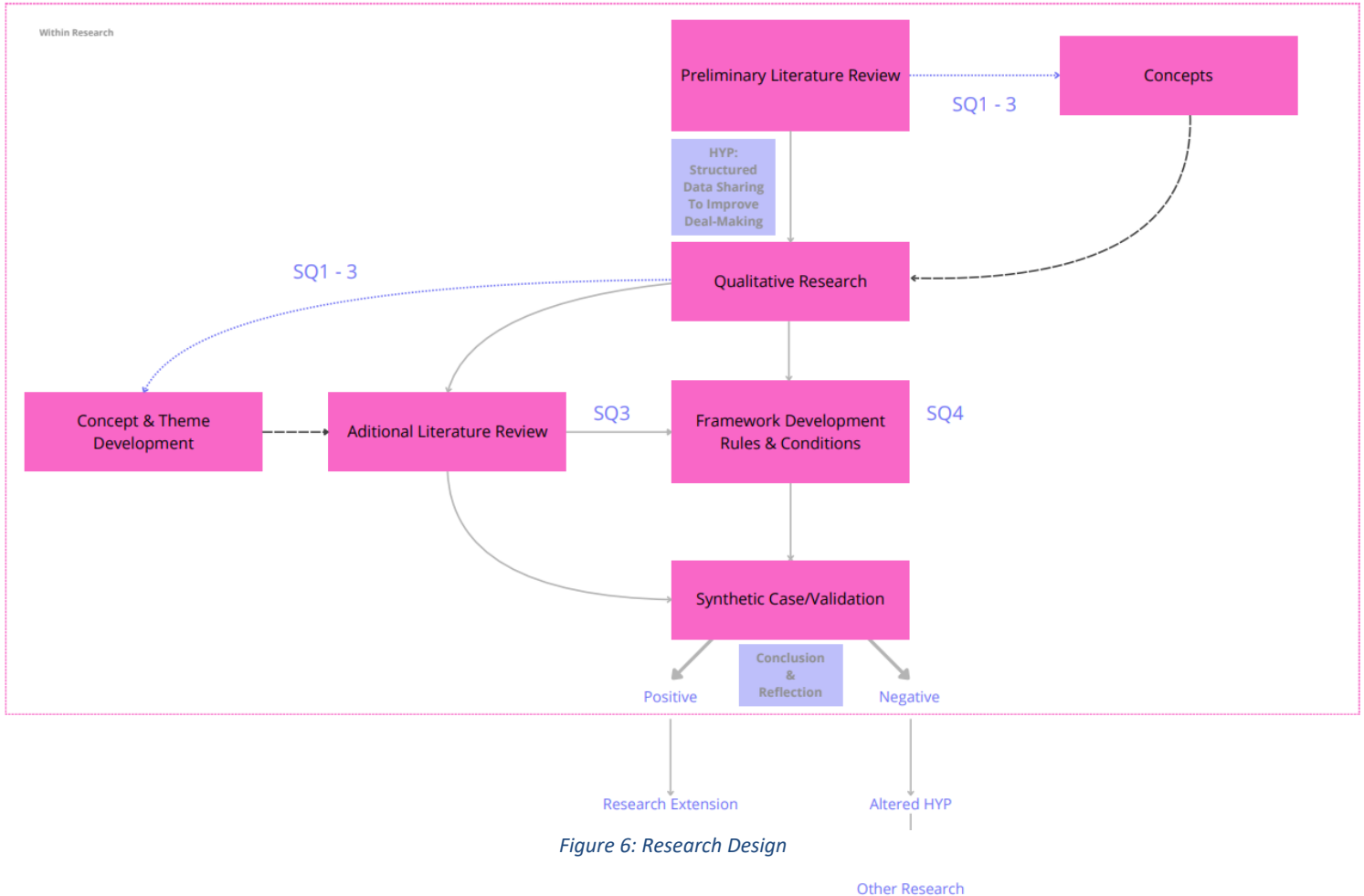


Figure 6: Research Design

## 3.3 EMPIRICAL RESEARCH – COLLECTION & ANALYSIS METHODS

The empirical grounding is significantly impacted by the criteria for data collection and the subsequent analysis of the retrieved data. The following explains the data collection methods and their respective analyses methods.

### 3.3.1 Empirical Research – Data Collection Methods

As described in the sequence of methods section, the initial literature review guided the empirical research. The concepts from this initial literature review are therefore defined in the following before setting out the data collection and analysis methods.

#### Defining Concepts From Literature

Initial literature review facilitated the understanding of the different components inherent to the inquiry. Building up towards composing the framework commences with defining the initial concepts:

1. Deal making phase
  - i.* The deal making phase is defined as the high-stakes window where information is exchanged, verified, priced and translated in to contracts. While the general dealmaking phase starts with a developer sending out an IM to attract capital, this research defines the dealmaking phase as the LOI/NBO to SPA/closing corridor, where the NBO exclusivity clause triggers time sensitive, intensive, and narrowed negotiations between two parties.
2. Data Sharing (Formal & Informal)
  - i.* All documents and exchanges that inform the deal: IM, drawings, third-party reports, draft contracts, emails/calls/Q&A
3. Transparency
  - i.* The quality of being transparent in exchanging data
4. Staging and standardization of data
  - i.* According to preliminary findings, data sharing is already semi-staged. Many pieces of literature as well as practitioners believe that like in other fields of expertise, standardization can already help avoid misspecifications, or unnecessary questions. Phased sharing of data (pre-IC → DD → Closing) using a consistent structure and vocabulary to avoid overload and ambiguity.
5. Triangulation
  - i.* The embedding of the operator('s information needs) incorporating post-closing performance in negotiations, creating investor-developer-operator triangulation.
6. Negotiations
  - i.* Discussions aimed at reaching an agreement, being a purchase and sale agreement. Initial literature stated that these discussions and discussion topics are variable.
7. Obligations & Legislation
  - i.* The obligations surrounding a negotiation including data exchange. Apart from obligations set by law, informal obligations also impact negotiations.

## 8. Asset specifications

- i.* When approaching negotiations for the purchase and sale of an already existing property, asset specifications are already defined, and performance has precedent. With an asset that has yet to be developed, asset specifications have yet to be (fully) determined. These are defined by what the developer has and can create, and what the eventual buyer wants.

## 9. Framework

- i.* A structure underlying a system and/or concept.

## 10. Risk

- i.* In the initial literature, risk was already proven to be a big part of the negotiation process, endogenous to the negotiations, as well as exogenous in the form of systematic risk. Uncertainty was also mentioned, but due to the lack of real-world insights, its connection to negotiations and data sharing missed, while its connection to risk complicated its variable positioning.

These definitions shaped empirical research which subsequently shaped the direction of the secondary literature review. After conducting empirical research, the nuance and connections between the different concepts facilitated the understanding of how current real-world negotiations are shaped.

## Semi-structured interviews

**Purpose:** Empirical evidence serves the purpose of defining current dealmaking practices and subsequently finding the tensions during negotiations—the obstruction of transparency being one of them—as well as the classification of datapoints during this process and the perception of the involved stakeholders.

However, for the credibility of the interviews, one interview of both stakeholders is sensitive to bias and may not capture broad enough findings (due to e.g. asset class expertise). For this reason, multiple people are interviewed.

For this research the following people were interviewed:

1. Project manager - an individual working in guiding high volume (10+Mio EUR) transactions
  - An objective third party, that guides transactions, and thoroughly understands negotiation/stakeholder drivers
  - Having significant affiliation with transactions of already existing properties.
2. Institutional investors - two professionals that work at an IM firm responsible for transactions & acquisitions (decision makers in real estate funds)
  - Having affiliations with all asset classes, but expertise in at least one (1 with logistics, retail and prominently offices - the other with residential)
    - i.* the reason for choosing IM employees, is their openness to share, in contrast to institutional investors (which I experienced during the internship), while being decision makers during deal-making with the same drivers, as the decision making and driver aspect is essential for the interviews.
3. Developers - three professionals that have experience working with institutional investors
  - Professionals who have worked multiple projects through the years, and have been responsible for at least 1 involving an institutional investor

As the conducted interviews were semi-structured, together with the fact that the interviewees needed to have enough expertise and experience on the subject, the interviewees needed to have enough seniority in their position, defined as at least 5-10 years of experience in their role, and have high responsibility within their firm (partner, manager, head of etc.). A significant criterium for all interviews was the safeguarding of the interviewees identities, not only to protect the interviewees, but also to facilitate openness. This safeguarding was emphasized at initial interview proposition, before starting the interview, and once more as one of the opening statements of the interviews. For this reason the titles and respective participants are not disclosed.

As explained in the research design section, the preliminary literature review revealed concepts and themes that were used to guide the interviews. The hypothesis—a structured data sharing framework to enhance deal-making, formed concepts in itself, creating the theme: applicability of a framework. Taking this together with the clustered concepts, resulted in the following concepts and respective themes to guide the interviews:

Concepts	Theme	Elaboration	Link to research
Data (types), data sharing (constraints (standardization)), sharing mediums & transparency	The nature and impact of shared data	What and how is data shared, and what is its impact?	What data is currently shared, and what actually moves price and/or impact negotiations in turnkey/forward-purchase deals?
Process, deal-making, decision making & negotiations	Process and decision making	What do negotiations and the deal-making process/phase entail, how is it defined, and how does it affect decision making? What are the negotiations about? What are the sources of inefficiencies?	How do risks allocate across developer-investor-operator, what information mitigates them, and how material are the residuals for price?
Legal & informal obligations	Dutch law and practice	What are the obligations surrounding data (disclosure) and how do contracts shape negotiations?	What obligations and norms govern data sharing in the Dutch context—and how do they shape behaviour?
Standardization, efficiency & barriers/incentives	Applicability of a framework	Does a standardized, structured data sharing framework have potential, and what are the barriers/incentives for adoption?	What should a structured data-sharing framework include, when does it work best, and what drives adoption?

The themes and concepts served as an interview guide. The questions in the elaboration column served as 'minimal to be answered' questions, to make sure the interviews sufficed. Due to the interview approach as explained earlier (semi-structured with experienced professionals), the answers were way more extensive, which enabled better expansion of concepts and themes. This will further be elaborated in the interview analysis section.

### 3.3.2 Empirical Research – Data Analysis

After gathering the empirical data, this data is ought to be analysed and interpreted to become valuable information. The following explains how empirical data is analysed.

#### Analytic Approach & Transcription Analysis

The empirical analysis serves the purpose of producing themes, patterns, and notable observations to feed into the framework as rules and conditions—as well as understanding stakeholders' perceptions that form drivers of negotiations and/or collaborations. The transcripts were used to: (1) partially answer research questions directly, (2) discover new findings feeding into additional literature review, (3) understand stakeholder perception, and (4) pinpoint in practice negotiation inefficiencies, together designing framework rules and conditions.

After the interviews were conducted, the audio recordings were used to transcribe in intelligent verbatim. To facilitate openness of the interviewees—as mentioned before, the transcripts were anonymized and if interviewees mentioned companies or projects—which could be perceived as not publicly known, they were named COMPANY XX or PROJECT XX. By doing so the interviews had more room for error, enabling participants to speak more freely as the interviews were semi-structured. Each transcript was sent to the interviewees, explicitly asking them if they perceived the transcript as portraying what they meant during the interview.

A qualitative interpretive approach was used to understand how stakeholders describe the initial concepts, after which reflexive thematic analysis is used to develop explanatory themes. In other words: literature review resulted in initial concepts which fed into initial themes (determining the patterns), after which those themes were used to conduct the interviews. The interview data then was used to expand and sharpen key concepts (e.g. negotiation subjects → pricing vs asset specification), which were used to again develop themes.

To analyse the patterns of negotiation and perception, open codes were used as a secondary analysis layer to label meaningful excerpts, after which the open codes were categorized. As the interviews were guided by the initial themes, the initial concepts and themes were expanded and/or revised with the categorized codes. The surprising observations, new themes and concepts were researched by additional literature review.

The reason for the secondary analysis layer is to avoid missing notable observations, as well as creating the ability to check co-occurrences. This allows for analysing links between concepts and excerpts—e.g. transparency vs negotiation.

Each transcript has been read at least three times. The first read serving as a general overview, the second read as a sequential read of all transcripts to recognize potential interviewee bias or initial patterns, and the last read to annotate key points and contradictions. Notable observations were written down to record thoughts and decisions.

## In Practice Observation – Internship

Due to the pragmatist nature of this research, an internship was conducted at an investment management firm (CBRE IM). This internship was on a 40-hour-a-week basis (6 months) and was conducted to obtain (at least) the following objectives defined in the signed internship agreement:

1. Real world - in practice insights
2. Insights on the investor perception
3. Insights on process: due diligence and how the different phases throughout negotiations impact dealmaking
4. Insights on the impact of different stakeholders throughout a transaction
5. Insights on the impact of stakeholder triangulation (the embedding of operational needs within the investors activities)

The choice for an investment management firm was based on experiencing the institutional investor decision making. The main difference between institutional investors and an investment management firm lay in who *owns* the capital, where investment management firms are used as a vehicle to deploy capital. The same drivers, responsibilities and risk appetite apply, where investment management firms earn a percentage for management.

The internship was valuable for attaining knowledge and experience surrounding institutional investing. The objectives mentioned were operationalized by:

1. Meetings with various stakeholders on real estate developments and working on the concerning projects
2. On site visit with operators of assets (buildings) and communication with these parties
3. Various experiences with different experts/professionals and aiding in the facilitation of essential orders of business
4. Insights on current projects and transactions and being responsible for at least 1 aspect
5. Another supervisor with whom there is at least a bi-weekly reflection to reflect on process(es)/progress
6. Aiding in a (potentially high-volume) transaction

The main objectives and their respective operationalization served as a basis—just like the ‘minimal to be answered questions’ in the interviews. However, upon starting the internship, many opportunities enabled to learn more about dealmaking, negotiations, responsibility, data etc. Especially as the internship supervisors were head of asset management and a senior (investment) data analyst & transaction analyst. One of the opportunities, was the aiding in a high-volume transaction, where the VDD was reviewed—and partially filled by the researcher, giving valuable insights on data and data sharing during a transaction.

## 3.4 ETHICAL CONSIDERATIONS & DATA MANAGEMENT

This research has to serve a purpose for all stakeholders involved. To achieve this, it is of utmost importance to evaluate potential risks associated with the research, as outlined by Saunders et al. (2012). The following assesses and addresses these potential risks in 3 critical areas: validity, data management, and the protection of participants.

### 3.4.1 Validity Of Research And Representation

Ensuring the validity of the research involved can be done by distinguishing 2 types of validity: internal validity and external validity. Internal validity depends on whether the interviews accurately measure what is intended to be understood (Price & Murnan, 2004). The chosen interviewees should be carefully chosen to support the research questions. A mixed-method approach enhances validity by using different ways to understand the same problem. This justifies the quantitative translation of qualitative findings. External validity is based on how representative the validity is in comparison to the general public (Price & Murnan, 2004). The mitigation measure to the risk of the interviews not being representative is selecting different interviewees in different positions and an objective third party observant of the process.

However, due to the competitive nature of negotiations, and most complex/large scale transactions being off-market, generalizability—and thus external validity, cannot be accurately determined.

With the positioning of the qualitative research methods, a researcher's bias can have significant impact. Mitigation measures are mentioned in the research methods and are carefully considered before and while conducting the research.

### 3.4.2 Data Management Storage And Legal Aspects

Participants are informed of the research theme and the question types, as well as the purpose of the research. Especially with 'recent' developments on the privacy law in the Netherlands it is important to have legal authorization of the participants, to prevent further legal issues. The data which is gathered through the interviews, should be protected at all times. This is done by storing the data at the TU Delft project storage. The data will be anonymized. This however jeopardizes the integrity of the gathered data. Data will be stored for ten years in the TU Delft repository, complying with TU Delft Research Data Framework Policy, which only gives access to TU Delft researchers.

In the appendix, the Data Management Plan and HREC application are attached. In these forms, the data to be collected and their sources are defined, as well as the procedures for secure storing (Blaikie & Priest, 2019).

### 3.4.3 Data Integrity

Working with human participants poses certain risks. Anonymity can be of great importance to participant, and potential data breaches are acknowledged in written consent forms. If desirable, participants can retract their given answers within two weeks after receiving the transcript. As previously stated, data is anonymized and access is restricted to TU Delft researchers. The transcripts of the interviews is sent to the participants and their consent verified after the data is processed. By addressing these risks and conducting the research with research ethics in mind, the aim is to thread in an ethical manner without jeopardizing the validity of the research.

*DISCLAIMER: These ethical considerations were implemented from another research design. However, the original work from which it is copied, is the researcher's own work.*

# 4 Results

## 4.1 EMPIRICAL GROUNDING

As explained in the methodology section of this research, some of the research questions are answered in a parallel manner to reflect the tensions during negotiations, and stakeholders' willingness to share data. Apart from this, empirical findings from interviews reflect the perception on the counterparty which influences negotiation behaviour, but cannot concretely be quantified (gut-feeling). While institutional investors and renowned developers may be less influenced by this, internship experience as well as human nature reflect that this aspect may not be as influential, but still present during negotiations.

### 4.1.1 Interview results

#### Direct Results – Understanding Dealmaking

The interviews sharpened the understanding of negotiations, the bottlenecks, and insights in making it more efficient, specifically in Dutch context. As mentioned in the methodology section, the 'minimal to be answered' questions were used to partially guide the interviews. In this section, the direct results of these questions are elaborated.

#### Verification Of Dealmaking Process From Literature Review

Interviewees stated that dealmaking starts with a teaser and an IM, after which conditional interest is expressed either by NBO or LOI—and INV 1 stated that at this stage informally you respect each other in a sense that the exclusivity clause in an NBO is often just extra security. After this, before entering the due diligence phase the investor goes to their IC requesting permission for the potential acquisition. INV 1 stated, that in practice certain aspects of due diligence are often already done before approaching the IC. When price and contract are negotiated and due diligence is conducted, the deal moves to closing, by SPA.

This confirms the literature exploration of the dealmaking phase. Together with the negotiation trade-off and position of risk & uncertainty, this forms the basis for the three block deal-flow division.

#### What Data Is Currently Shared And How?

As explained above, interviewees stated the different documents that mark the different stages of dealmaking. Apart from this, the interviewees were also explicitly asked to elaborate on what data is currently shared and how. Naturally, they separated the data shared per stage, and the communication channels in formal and informal:

DEV1: 'Depends on the phase'

DEV3: 'Depends on the timing of the sale'

INV1: 'First high-over, then you proceed in depth'

The high-over package—as defined by investor 1 consists out of:

Pre-DD (NBO-DD corridor)early, high level package:

Teaser & IM + basic project facts, and building metrics + visuals

DD package (DD-SPA corridor)technical & legal documents:

Permits, drawings, measurement, technical reports, lease pack/tenant information, sustainability & compliance check, PoR, and contractual anchors from NBO.

*Residential specific:* VvE (homeowners association)and splitting (to be able to sale singular units from a complex, coherent with the current 'uitpond' strategy trend).

Financials and build costs are often withheld to maintain competitive advantage for the developer, and an investor stated that their valuation is based on own research (INV1: 'Well, financial information we don't get very often of course, because they think we should determine for ourselves what the ins and outs are in terms of rental and vacancy values.' INV2: "Sometimes... it is selected when things are shared. Sometimes it's more convenient to bring certain things a little later in another stage... That's a manner of how do you trade with each other.")

Critical datapoints in residential development that are said to often be delayed are WWS points and energy labels, while these form a valuable source for the valuation of the investor as they directly impact their potential NOI (INV1: "They won't come up with the WWS point count by themselves very quickly. Because of course that is also partly difficult sometimes at the front to estimate properly... But for us, of course, it is very important to know.").

The channels used to communicate the data are said to be VDR's for entire datasets and email for one-on-one or quick questions.

### **What Are Negotiations About?**

While one of the investors stated that negotiations can be about a multitude of subjects (INV2: 'Negotiations can be about everything'), the investor with longer experience—as well as the developers, stated that the negotiations are often a trade-off between asset specifications, price & risk when it comes to FP/TK deals.

Developers expressed that they know what investors want (DEV1: "We know really well what investors want"), and if alterations are requested to adhere to certain requirements from the investor, this is not perceived as problematic—depending on the timing. Developer 3 described it as: 'It's never smooth... they also have demands... and you then have to move that towards each other in the end.'

In the interviews with the most experienced developer and investor, they both said that the practical application of this trade-off is both coming up with a price per sqm based on their assumptions and then finding middle ground. The most experienced developer stated: 'Then there will be a whole list... and then I'll go back to that investor... this is in the basics, this is what we can arrange... and then we'll move on.'. Similarly, the most experienced investor emphasized that early negotiations hinge on 'The core data... so we can put it into our IR model and determine what we can pay.'

This iterative process aligns with the shared perception of both sides strategically withholding some information at first, but convergence cannot be avoided: 'Everyone is holding their cards to their chest... but at the end of the day, the cards have to be on the table'

### **How Do Obligations And Norms Shape Behaviour?**

As explored in the literature review, haviltex creates an unspoken dimension to dealmaking and thus translates informal obligations into applicable deal terms. This means that it is important for both parties to understand what is agreed to. Even though perception will be elaborated in a following section, the impact of obligations and norms on behaviour directly impacts negotiations and can expand the divergent facets of negotiations.

For legal obligations and norms, civil law duties promote a certain threshold of transparency. While this is the case, the interviewees stated that for them, they perceive that law does not set a lot of rules on data exchange nor negotiations, only that they happen in good faith. They expressed more consideration for implicit industry/professional norms.

Obligations and norms act like a frame guiding negotiations. Investors stated that due to their internal mandates and IC approvals negotiations are also ought to comply to their gated phases.

### What Are The Sources Of Inefficiencies? (Bottlenecks & Tensions)

One of the investors stated that although he experiences the dealmaking phase as well-organized, there are inefficiencies that cause negotiations to take too long. Across interviews these sources were mentioned. The following table sets out the bottlenecks with short excerpts linked.

Bottlenecks	Quotes
PoR & asset specs do not align causing rework and negotiations	INV1: "Our programme of requirements never matches one-to-one with the developer's starting point. So then you have to see where you can get consensus."
Different vocabulary use & fragmented information causing a "ping-pong" of questions, requests and answers	INV2: "You have to make sure that you start talking in the same language as a basis. And that very often doesn't happen."
Timing of sharing data, sometimes deliberately withholding until a later stage <ul style="list-style-type: none"> <li>o Developers note that hurdles are not shared, while investors note that information that is available at a later stage of the design is shared as late as possible</li> </ul>	DEV1: "If I make a sketch design, there's no point in sending all the uncertainties along... at the front end, all those risks are too stressful to share."  INV1: "Energy labels... are usually only used in the second phase where you actually enter the DD... not in the first phase already."
Unstructured, bulk information delivery	INV1: "Then when you look at the programme of requirements... 60, 70 pages... the first moment they see that they think: wow, do we have to go through that...."  INV2: 'Actually, the question would be... how to be able to assess things faster, in a clear way, other than just throwing a bulk over the fence.'  PM: "...That gigantic load of information that you receive needs to be structured".
Risk allocation and "what-ifs" take a considerable amount of negotiation time	DEV1: 'Permit, builder goes bankrupt, asbestos... on the front end, all those risks are too stressful to share which takes time.'  INV2: '"That's... a grey area. Sometimes it's more convenient to bring certain things [risks] to another stage a little later... it's how you negotiate with each other."
Contractual anchoring debates on how aspects are ought to be	DEV1: 'I've always worked with contracts that... got more and more

described despite standardized contracts	specific based on experience... That's a 20-30 year product."  INV1: 'And very often we also get something else from somewhere, flag it, to exchange again for something we do want to get brought about.'
Different sector and cultural negotiation styles, where Anglo-Saxon parties are perceived to be more legalistic	DEV3: "Dutch institutional you understand more easily... Anglo-Saxon comes first with lawyers. They are very tough with negotiations." "different asset classes have an impact. That has a very different dynamic."
Core assumptions need to be revalidated externally	INV1: 'BREEAM reports... must be fact-checked by our appointed company.'
Price and assumption gaps between data that is received and own research	INV1: 'We obviously all do our own research... the initial assumptions we all make ourselves.'  'Well, financial information we don't get very often of course, because they think we should determine for ourselves what the ins and outs are in terms of rental and vacancy values.'

### What Should A Structured Data-Sharing Framework Include, And What Drives Adoption?

According to interviewees—especially the project manager, a standardized structured data sharing guardrail would have significant effect on negotiation workflow, and could be of great value to reducing inefficiencies in dealmaking. When asked, the interviewees had valuable insights on the requirements such a framework should have. These are:

- Phase-based checklist
- Standardized vocabulary
- Explicit NBO/LOI assumptions sheet
- A PoR vs design spec 'differences list'
- Separation of must-have & nice-to-have

However, certain incentives and objectives drive adoption:

- Speed & transparency gains
- Fit with investor governance
- Fit with developer workflow (phase appropriate)
- Early pricing conversations, not interrogations
- Alignment with market data (e.g. similar ESG requirements)

### Notable Observations

As stated in the empirical research-data analysis section, notable observations were recorded to note valuable excerpts. Due to the volume of empirical data, these notable observations aided in keeping overview of what the interviewees deemed most important, subsequently guiding the theme and concept expansion in the following section.

**NO1:** When conducting the interviews, the negotiation corridor was communicated in the interview questions as 'the dealmaking phase' in which most interviewees responded with a request for specifying how I defined dealmaking. Especially the developers, who stated that for them dealmaking could be with a lot of different stakeholders. DEV 1: "Yes, the deal-making phase is vague... a deal is also when I sign a contract with a consultant or architect; deal-making can be when I make a purchase; deal-making can

be when I enter into a preliminary agreement with the local municipality...so that deal-making question differs per project." This emphasized the characteristic of developers being the manager of the RED process.

**NO2:** When asked about the dealmaking process, the interviewees automatically labelled the phases by information trajectory. INV 1: 'if a good feeling is established, then you go to... LOI drafting... and then we can go to phase 2 to go deeper into issues.'

**NO3:** The interviewed developers mentioned that the way they know whether an investor will be interested in a project differs per investor. Some investors are more active at gatherings and are more actively looking for investment opportunities.

**NO4:** Developers frame timing as the key variable: they bring investors in only once enough certainties exist (permit, contractor, lease pre-lets) because early disclosure generates noise ("wekt ruis") and spooks risk-averse buyers (institutional investor possess this trait). One puts it bluntly: "The phase also determines how much flexibility there is... do we share data?... completely transparent-but relevant and phase-dependent." Another developer confirms the timing trade-off: investors want in "the sooner...the better" but "we often think, the later, the better" to maximize price and avoid premature lock-in. One of the developers stated that his firm's strategy was to sell at a later stage of the RED process as this gives them leverage and enables them to realize their vision.

**NO5:** The assumptions used to determine the sqm price are uncertainties translated into probabilities and price. INV 1: "We think in terms of risks. And the developer tries to convince us that all the risks we see are positive certainties... Nobody knows what it will be in three years... So you have to negotiate that."

**NO6:** You cannot standardize risk allocation. "Well, it [a framework] can certainly help, but it's pretty straightforward, the data you need to assess something properly is pretty straightforward, so that's not so much where the crux is, the crux is much more in the pricing at the end of the day and the risks, who takes what risks for it, you can't really standardise that, you just have to negotiate that out."

**NO7:** There are common points of tensions that reoccur in negotiations. Interviews noted for example WWS points being one of them.

**NO8:** The embedding of the operator—while being of great value in assessing the eventual operation of the asset and thus its perceived value, is often done at a later stage. This is perceived to be accounted for by consulting an asset manager appointed to the region of the intended acquisition. This consults cover assumptions on rent, VPV, location, and floorplans. The technical aspects are discussed with the in-house technical manager.

**NO9:** Although all interviewees seemed aware of uncertainty, uncertainty was often expressed as risk. This causes confusion, and gives cause to express it more explicitly.

**NO10:** Both developers and investors expressed an unspoken segregation of data (assessment). This was expressed as 'must-haves vs nice-to-haves', differences in requests from the investor regarding the asset design, or aspects that impact valuation logic (see segmentation logic Appendix).

## Concept Expansion – Finding The (Implicit) Bottlenecks

By reading through the transcripts and noting thrice, together with coding as a secondary analysis layer, the initial concepts and their respective themes were sharpened and expanded to reflect dealmaking as a whole, negotiations, the position of data and data sharing, as well as the applicability of a potential framework.

The initial themes bundled many concepts, while in practice insights proved that an expansion of the themes was needed to reflect actual dealmaking and negotiations. To draw the comparison, the initial themes as in Empirical Data Collection section:

1. The Nature And Impact Of Shared Data
2. Process And Decision Making
3. Dutch Law & Practice
4. Applicability Of A Framework

These linked the different concepts as found in the initial literature together to understand the patterns. The expansion and sharpening in turn formed the following themes:

1. The Nature And Impact Of Shared Data (Data Types And Mediums)
2. Process & Decision Making
- 3. Due Diligence & Verification Of Assumptions**
4. Dutch Law & Practice
5. Applicability Of A Standardized Framework
- 6. Negotiations**
- 7. Critical Data Points – ESG & Por**
- 8. Risk & Uncertainty**

### Reasoning new themes:

While due diligence is a part of the dealmaking process, it has a different function in terms of data. At this stage, data is verified and assumptions are tested, being imperative to solving uncertainty and mitigating potential dulcified assumptions from the counterparty. This divides it from the initial negotiations, but introduces re-trades at a later stage of dealmaking.

Negotiations and what they consist out of is separated from dealmaking, process & decision-making, as negotiations consist out of discussions on specific topics to reach an agreement, whereas dealmaking refers to the entire process. This was discovered when it became apparent that developers perceived dealmaking as a broad term, used with many involved stakeholders. By separating negotiations, the topics and trade-off were discovered. A specific trade-off of price-vs-asset specs was mentioned by multiple practitioners.

Critical data points are introduced as the practical application of determining negotiation topics. These critical data points are segmented by practitioners into different 'types' of data points based on their use.

Risk & uncertainty serves the understanding of their position within dealmaking, outside of negotiations, as well as inside negotiations, subsequently developing a workable explanation for their impact and connection to data.

One concept was created, which could quantify the impact data exchange has on negotiations: **residual uncertainty**. This concept has a changing position, directly linked to data. As data is shared, residual uncertainty can be turned into risk, which is directly discussed in negotiations. It can balance transparency, by defining explicitly what data is still ought to be determined or shared. Not only is it of significant value to retrieving needed data during negotiations, but also to determine what remains uncertain after closing, directly substantiating valuation divergence and/or specifying the needed contractual anchors. This concept was found after 3 interview insights triggered the different approach to uncertainty and risk.

- 1: 'Risk allocation cannot be standardised'
- 2: 'We are prepared to be as transparent as possible, as long as our profit is not predetermined by the opposite party'
- 3: 'One thing is for sure. What I write down now, that is not how it is going to be,... you have so many uncertainties'

New concepts were developed embedding pragmatism, and thus reflecting the specified negotiation type and how they are carried out in practice. The definitions of these new concepts are:

1. Differences list

- i.* Practitioners stated that after an NBO/LOI, a differences list is drawn up—often by a third party, to assess where the differences are between the design the developer has, and what the investor wants. These facilitate the formation of critical data points.

2. Critical Data Points

- i.* After this differences list is produced, critical data points come to light, where the main negotiation topics are determined. These are either differences in what the design has yet to have, to adhere to the buyers demand. The extensiveness of this list is impacted by both timing of approaching capital (by developer), and availability of data. As these critical data points are based on the investors demand, the data points can be categorized according to their cascading policy driver.

3. Negotiation trade-off

- i.* As defined by practitioners, the negotiations are on what the asset specifications are going to be vs price, creating the asset specs vs price trade-off. Price also includes payment structure and risk allocation, while asset specifications consist out of a multitude of categories.

4. Valuation & Terms

- i.* Both parties define the value they believe the asset is worth based on its specification. Different approaches to risk as well as different valuation methods used causes divergent valuation, and extensive contractual clauses. These values and terms are based on the asset specifications and risk inherent to the realization and operation of the asset.

5. (Residual) Risk & Uncertainty (the external component)

- i.* While in the initial literature reviewed, risk was often mentioned extensively, the in practice divergence and divergent impact of uncertainty which is linked to risk is not. While some literature did mention it, only after interviews their link and impact became prevalent.

By taking these different concepts deducted from empirical research and literature review, a conceptual framework of current negotiations is formed, which is shown in chapter 4.2. By drawing a comparison with negotiations for existing properties, asset specification categories and the impact of data on valuation can be further elaborated.

## 4.1.2 Stakeholder Perception – Assessing Negotiation Behaviour

Apart from drivers and characteristics, stakeholder perception significantly shapes negotiation behaviour as well. As the literature review and internship enabled a surface understanding of characteristics, drivers, and how they manifest in negotiation behaviour, the interviews served the purpose of better understanding the negotiation position—as well as both parties' perception on the concepts. The following assesses both parties' perception of:

1. The negotiation
2. Data sharing & Transparency
3. Formal & Informal obligations
4. Sources of bottlenecks
5. Applicability of a (staged & standardized) framework

By doing so, the drivers and bias that impact dealmaking can be determined, (partially) shaping incentives and barriers inherent to implementing a solution. A third party viewpoint enables an external perception to the different topics. The following assessment embeds the perception of the stakeholders to create viable understanding of how perception impacts negotiations.

### The Negotiation

#### Developer

Developers describe negotiations as a process that consists out of a constant trade-off between specifications and price: 'It is always the case that they also have additional requirements. They have their own PoR and we have a design. Then you have to move towards each-other in the end'. They perceive negotiations as finding balance between quality and efficiency: 'we have already submitted the permit when an external party comes on board.. and the first thing you do is identify the differences. In my opinion negotiations is about that.' One of the interviewed developers stated that specifically in TK deals "it is mainly about holding back on the final instalment. So that final instalment, that last 5% that they pay us, is held back until the warranty period has expired" emphasizing negotiations on the waterfall design.

#### Investor

Investors stressed that negotiations are always about price versus asset specifications, with responsibility and risk allocation being central. 'The developer is trying to convince us that all risks we see, are positive certainties.' The process, they say, is 'part of the game', in which both parties deliberately 'keep their cards to the chest' (Dutch saying of holding back information). Negotiation points lie in design choices, sustainability and payment structure: 'It is about the delivery of what you are going to get... who takes the risk of it [the asset] being there'.

#### Project Manager

The project manager portrays negotiations as 'a matter of negotiating out... often, though, there is really always 90% adherence to the draft purchase agreement.' The focus is on details: 'when the delivery takes place, what the caveats are.' He emphasises efficiency and trust: 'The more data, the more flexible a transaction is.'

## Data Sharing & Transparency

### Developer

Developers state that they are willing to share as much information as is requested, as long as:

- Data is available
- Transparency does not jeopardize competitive advantage
- Profit is secured

Transparency arises only as risks are mitigated; getting in too early distorts the design and depresses the price. 'The earlier you do it, the more room there is to fine-tune your design... then you get that behaviour of withholding things.' So data sharing is strategic and phased: 'Indeed, at one point the corporation were like don't send us everything... irrelevant things you just keep to yourself.'

### Investor

Investors experience that developers are not quick to come up with certain information that is yet uncertain. Transparency is seen as incomplete: 'Everyone is definitely holding some card to their chest like that.' Yet people recognise that full disclosure is essential for trust and speed.

### Project Manager

The project manager emphasizes maximising transparency: 'we always try to be very transparent with all information.'. Incomplete data hinders efficiency. They point out that transparency creates mutual trust: 'Openness... that matters, tremendously.' Even seemingly negative information should be shared: 'You shouldn't withhold anything either.'

## Formal & Informal Obligations – The Counterparty Perception

Investors and developers both have a specific outlook on the counterparty. Despite this consisting out of a multitude of subjects, the manner in which they frame dealmaking behaviour explains the underlying informal obligations, and the perception each party holds on the informal obligations the counterparty must abide by.

### Institutional Investors

Investors frame a tacit duty to be 'duidelijk aan de voorkant' (clear upfront) and to avoid leveraging timing: disclosure is perceived as being a trustworthy ('netjes') counterparty. Investors still recognise that timing tactics happen 'in the heat of the moment', which implies an informal norm of fair dealing that is sometimes bent for leverage. This drives investors to ask early for core facts and to structure negotiations so parties do not end up in endless trajectories.

### Developers

Developers describe a norm of relevance-based transparency, accompanied by with phase-appropriate sharing ('je vertelt wat nodig is'), while balancing a felt obligation to secure the entrepreneurial trait of profit bound to upside and avoid avoidable noise when counterparties lack context or expertise. Informally, developers claim to move to 'open boek' (full transparency) cooperation once commitment and risk-sharing are clear. Before this, they hold back on details that could trigger unnecessary, unproductive debate. These norms shape behaviour towards staged disclosure, preference for certainty premia, and resistance to requests that could cause the investor/counterparty to determine what the developer should earn ('op jouw stoel zitten').

## Sources Of Bottlenecks

### Developer

Developers see bottlenecks mainly in timing and information tension: "Deals also come about because there are differences. It is always negotiation." Investors' involvement too early causes friction: 'The earlier I am at the table, the better, investors say... only from our point of view, we think: the later, the better.'. Developers note that at an early stage, questions surrounding uncertainties that are to be mitigated later in the process: 'If I get it too early, I also think not now, it's bothering me now with questions I don't have answers to yet.' Inefficiency thus arises from phase differences in information assurance.

### Investor

Investors experience bottlenecks in inconsistency and unclear data. 'You get a lot of information delivered in a big bag... and then you have to start distilling that information out yourself'. Miscommunication slows down negotiations: 'We all speak some kind of dialect, but no one speaks the same language.' Uncertainty about asset specifications leads to extra checks and negotiations.

### Project Manager

The project manager links bottlenecks directly to data quality, where incomplete files cause delays: 'If documents are missing, parties do like to do their own research after that.'.

## Applicability Of A Framework

### Developer

Developers see potential in a standardised framework, provided it fits their practices. 'What could prevent a lot of headaches is if we could have something where you put the current design in... and that automatically those differences come out of that.' Still, they caution that timing remains key: 'The earlier you sell, the more room there is for cluttering up your concept.' A framework only works if it is phase-dependent: 'Per phase could help... but if I'm still in my SO and you come up with such a list, it works against me.'

### Investor

Investors see standardisation as a means of efficiency and transparency. 'If that becomes more standardised in the market... everyone is talking the same language,' they say. They point to the need for uniformity: 'The big problem in real estate is data and contracts not being drawn up uniformly.' A framework would bring 'speed and more transparency' but remains limited by project-specific differences: 'There will never really be one standard.'

### Project Manager

The project manager experiences immediate benefits: 'A structured framework makes the process more efficient and cheaper.' They stress that a standard 'above all creates trust and openness.' Implementation mainly requires discipline: 'We often start with a checklist... if it's missing, we anticipate to still get it right.'

## Synthesis - Implications For A Framework

Across interviews, all stakeholders link the effectiveness of a data-sharing framework to how negotiations, transparency, obligations, and bottlenecks are handled. Developers view negotiations as a balancing act between 'their PoR and our design' ("hun PVE en ons ontwerp") where openness only happens once risks are mitigated enough, as they perceive institutional investors as risk-averse. Thus, a framework must *adapt to project phases* and allow selective transparency—supporting trust without forcing premature disclosure. The main condition is *phase-sensitive flexibility*, while automation tools that "zoeken de verschillen" serve as catalysts for efficiency.

Investors, who 'think in risk' ("denken in risico's,") see miscommunication and inconsistent data as the biggest barrier. Their catalyst lies in standardized terminology and uniform data structures, ensuring comparability and reducing negotiation friction. The condition is market-wide adoption and alignment with legal and ESG standards.

The project manager emphasizes that complete and structured information drives smoother deals. "Hoe vollediger je informatie is, hoe soepeler de transactie verloopt." Their catalyst is *procedural discipline and transparency*, grounded in mutual trust and consistent documentation throughout the transaction process.

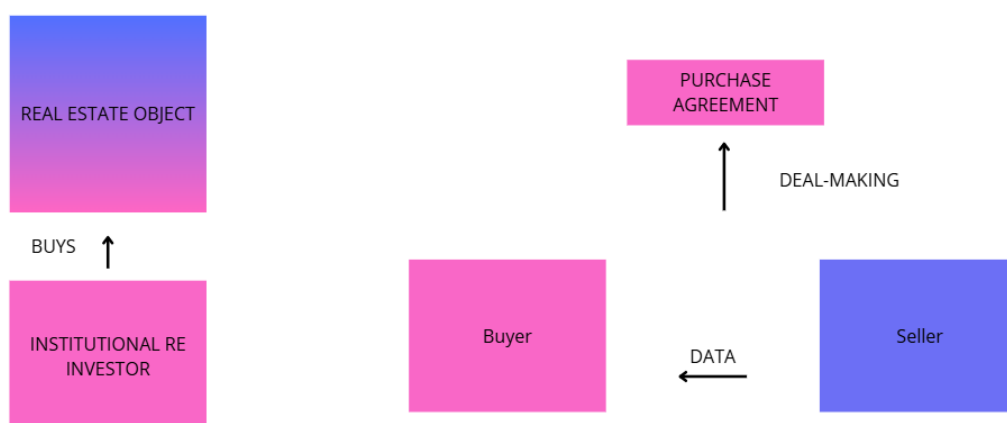
## 4.2 THE FRAMEWORK

### 4.2.1 Composing The Framework Components

By using empirical research and literature review, current negotiations were explored to be able to assess negotiations and the main tensions. To compose the different components of the framework, the following elaborates on the build up towards the framework, and how the different components aim to mitigate the existing inefficiencies and tensions.

#### Current Negotiations – Existing vs RED

In RED, the complexity of yet having to fully define an asset's specifications and attributes, makes understanding negotiations concerning said assets difficult. For this reason—among others explained in the Data Collection Methods section, a project manager was interviewed that has significant experience with transactions of existing properties. This facilitates the understanding of what negotiations and data concerns when a real estate object is sold, and the positioning of other parties within these processes, influenced by their characteristics and drivers.



With existing properties, data from the seller is shared with the interested parties. Based on this data, a bid is formed and the most suitable buyer gets approached by the selling party. This interested buyer then sets out a NBO/LOI. Data is formatted and extensive data is shared, after which the due diligence phase starts. This helps understand data flow and data types shared when selling a property, facilitating the understanding of the contents of asset specifications and valuation in the sale of a real estate object.

In the sale of existing property, price and payment structure are negotiated based on data surrounding a property, and contractually anchored. Not only does this data consist out of asset specifications, but also precedential information, like vacancy rates, lease-up speed, etc. This reduces uncertainty in the valuation of an object by mitigating it with historical data, turning the uncertainties into known probabilities.

What this comparison enables, is the understanding of the different positioning of risk and uncertainty in existing properties compared to RED, together with understanding the categorization of data used to form valuation of an asset.

## RED Negotiations

Based on empirical evidence and literature, it can be deduced that the main differences between existing assets and RED are:

1. The seller always being a developing party
2. The positioning of risk & uncertainty
3. Availability of data

However, as the data has the same purpose of forming a valuation, data categorisation can be deduced from the comparison to understand the difference with RED and the position of risk and uncertainty.

By taking together the concepts the following conceptual framework can be formed:

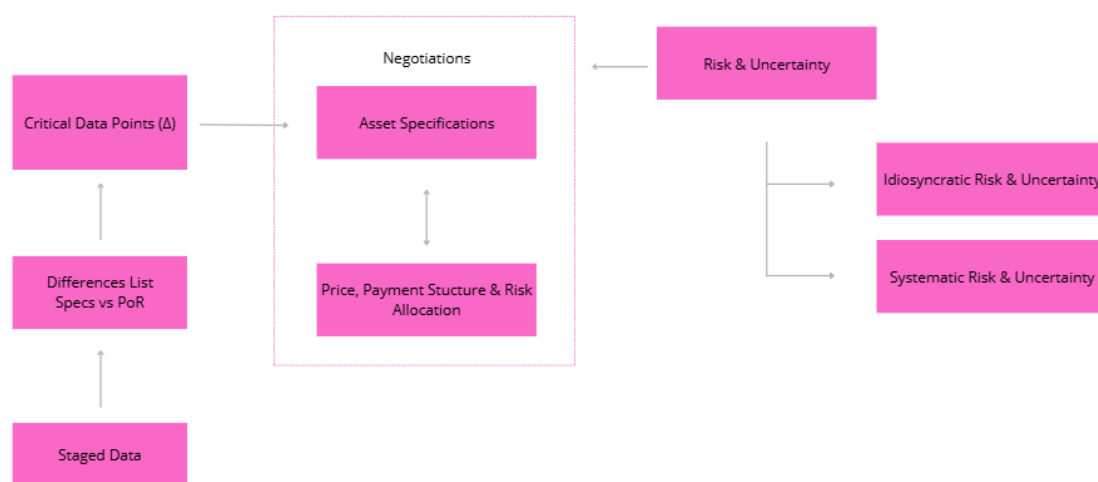


Figure 7: Current Dealmaking - Data Processes & Positions

Current negotiations start with staged data, that feed into a differences list. Critical data points are determined, that form the basis for asset specifications that need to be negotiated, against price, payment structure and risk allocation (negotiation trade-off). While risk is explicitly discussed, inherent to RED is the uncertain variable of what the asset is going to consist out of, as well as external risk and uncertainty due to the lack of historical data. This turns risk and uncertainty into an external variable that impacts negotiations, apart from risk as a negotiation topic. The concepts are mentioned together as the external layer of risk & uncertainty, consist out of partially known and partially unknown probabilities. Risk becoming explicit, and uncertainty embedded in assumptions, contract clauses, and valuation drift.

What this enables this research to do, is pinpoint where current data processes cause most friction, and suggest alterations to enhance the current workflow.

## 4.2.2 Division Of Deal-Flow – Deducting Framework Components

One of the many complexities this research involves, are the different positions of data, as well as an unclear oversight of the dealmaking flow, complicating the assessment of the sources of inefficiencies. A philosophical commitment to workable outcomes is dissecting the different components of data (sharing) to understand their positioning in being a solutions to the sources of inefficiencies and frictions in negotiations can be determined per process. By doing this, mitigation measures can be deducted for a structured data-sharing framework.

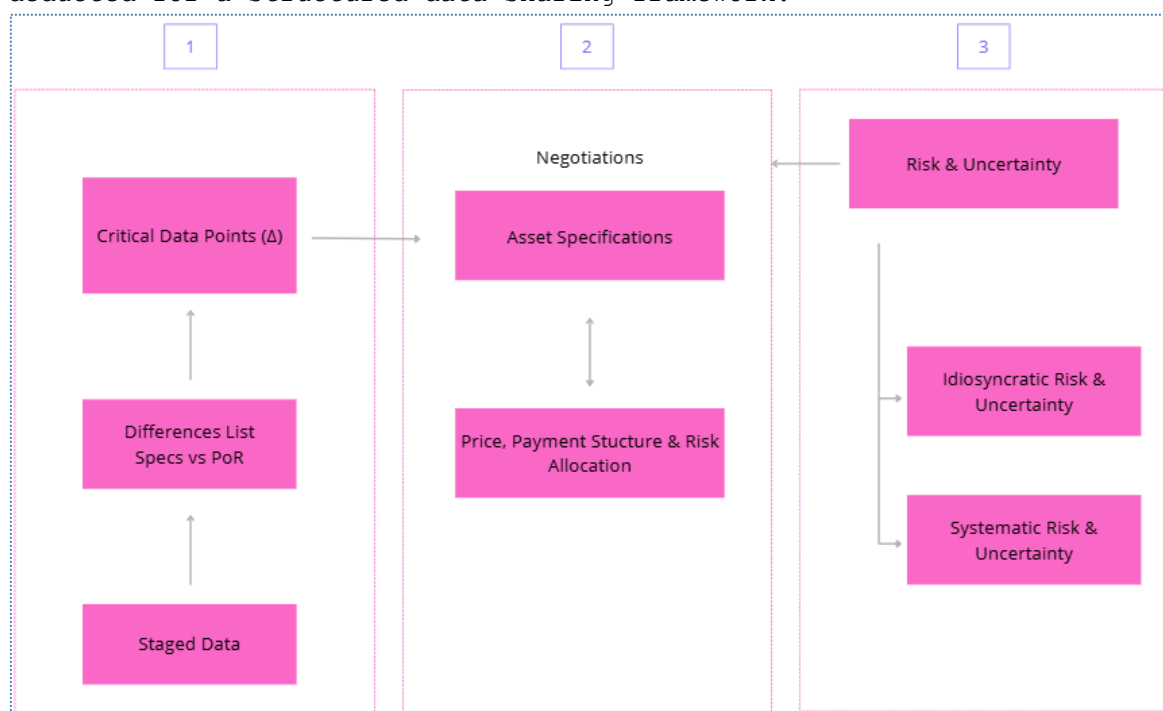


Figure 8: Three Block Data Deal-Flow Division

By dividing it into three blocks representing the evolving data processes in dealmaking, the main inefficiencies per block can be determined. Solutions for parts of the inefficiencies and tensions that are already extensively researched can be used to define solutions for the framework.

Block 1 is funnelling the data to determine negotiation topics, block 2 covers the negotiation process, and block 3 represents the risk & uncertainty variables that impact the negotiation. By categorizing them by function, the framework aims to enhance processes within the dealmaking process to improve on more than one facet.

For block 1, the data that is funnelled is said by practitioners to vary in vocabulary causing inefficiencies, and the differences list is said to be made by a third party.

For block 2, asset specifications are often presented in bulk, or in mismatch with the investor workflow.

For block 3, risk & uncertainty influence negotiations as a whole. Risks are allocated within the process, but both exogenous and endogenous risk & uncertainty impact a deal. This complicates assessing risk and uncertainty as an engine within negotiations. After funnelling the data some uncertainties become residual, but who has information to turn them into known probabilities? And if residual uncertainty persists after closing because data cannot mitigate it, on who's side does the coin fall?

The assessment of these three blocks forms the basis of workable solutions to negotiation inefficiencies & friction, this research proposes in the form of a framework.

The three block division also facilitates the emphasis developers put on timing. By dividing the negotiation process into subprocesses, the timing can adhere to the timing of entry in the developer workflow.

### Due Diligence

Within the three-block deal flow, due diligence is not incorporated as a separate block, as its position can be explained as an iteration of block 2, in which assumptions are checked and verified, causing re-trades if the assumptions are not rightly substantiated with data. By pinpointing uncertainties that are residual after initial data exchange, but do not persist to be residual after closing, targeted DD can be executed.

### 4.2.3 Quantifying Material Residuals

The quantification of residuals applies to the residuals that are projected to persist after DD. The purpose of this quantification is to turn implicit uncertainty into decision useful and measurable signals that guide price and contracts. Apart from this, by quantifying residual uncertainty, information gain can be used to quantify and pinpoint where, and which information is needed, facilitating balanced transparency. The quantification is done by identifying which residual uncertainties still move price or terms and ranking them by materiality and controllability.

The different components can then be applied to the mathematical foundation of entropy combined with standards in risk assessment, to calculate a Residual Uncertainty Score (RUS).

Entropy (in information theory) measures the average uncertainty in a random variable. This forms the basis of expressing how each uncertain each variable remains after additional information or contractual mitigation have been considered.

Entropy is defined as:

$$H = -\sum_i P_i \log P_i \quad 0 \leq P_i \leq 1 \quad \sum_i P_i = 1 \quad 0 \leq H \leq \log_2 n$$

In which  $P_i$  represents the probability that event  $i$  occurs, and  $n$  the number of possible states.

Adopting the principle of parsimony and standards in risk assessment, probability can be defined in three states—low, base, and high; optimistic, most likely, pessimistic (French & Gabrielli, 2005). This balances realism and simplicity. The state can be determined by market-based data or expert judgement.

For this research this means:

$$0 \leq H \leq \log_2 3$$
$$IG = H_{\text{prior}} - H_{\text{post}}$$

$H_{\text{post}}$  being entropy after better (market/substantiated) data is available. In information theory, when using  $\log_2$ , entropy is measured in bits.

A higher entropy value means that probabilities are more evenly distributed, meaning greater uncertainty. When introducing new or better data, these probabilities become more concentrated around the most likely state, reducing entropy. This creates prior and updated entropy, in which the reduction represents information gain (IG). This reflects how much uncertainty is reduced.

Incorporating the impact and mitigation, the RUS is introduced:

$$RUS = H * Im * (1 - M)$$
$$1 \leq Im \leq 5$$
$$0 \leq M \leq 1$$

By calculating RUS scores, residual uncertainties are made explicit, measurable and comparable. Uncertainty links to pricing through risk premiums and price dispersion, and to contract structure through allocation and flexibility mechanisms designed to handle what cannot be known upfront. By quantifying uncertainty with entropy and weighting it by impact and mitigation, the Residual Uncertainty Score (RUS) provides a measurable representation of this link. High RUS variables predict larger pricing spreads or more complex contractual provisions, while lower RUS values indicate conditions for tighter pricing and simpler, fixed terms.

$RUS = (\text{How uncertain}) * (\text{Impact}) * (\text{How well is it mitigated})$

As this research proposes a new approach to data sharing, uncertainty and risk, a case is used to showcase the logic. To maintain feasibility, a synthetic case is used to show a prototype.

## Justification

The quantification of the material residual uncertainties is based on the two components as discussed in the synthesis-implications for a framework section.

In risk assessment practices set-out in ISO 31000, with IEC 31010 providing risk assessment methods and tools, risk is judged by its probability and impact, in which impact is rated on a 1-5 scale. As risk and uncertainty are joint and composed of a spectrum, the incorporation of impact in scoring uncertainty is legitimised. The probability is calculated in entropy.

To calculate entropy, states are defined based on available market data or qualitative expert judgement. The choice for three possible states is based on real estate and project valuation often using "pessimistic, most likely, optimistic" cases in discounted-cash-flow (DCF) sensitivity or Monte Carlo seeding (French & Gabrielli, 2005; Geltner et al., 2014). Risk engineering also follows this logic when parametrizing uncertain inputs when probability distributions are hard to estimate.

The mitigation parameter operationalizes incomplete contract theory (Grossman & Hart, 1986). This way, full mitigation leads to a RUS of 0, eliminating the residual uncertainty. The important distinction between this mitigation parameter and information that reduces the uncertainty of a residual is the input. The mitigation parameter functions as a measure to what extent a residual is reasonably mitigated through contract or pricing, while IG is the reduction of entropy by tightening probabilities.

## 4.3 WORKABLE SOLUTIONS

The workable solutions to the researched frictions are composed into a coherent framework. However, its usefulness and applicability is dependent on several conditions. The significance of its measurable effect can also be enhanced by several catalysts, which naturally also form the potential barriers, and is linked to the conditions. The workable solutions consist out of alterations to existing negotiation workflow, deducted from empirical data and literature review.

### Alteration Block 1:

Standardization of staged data

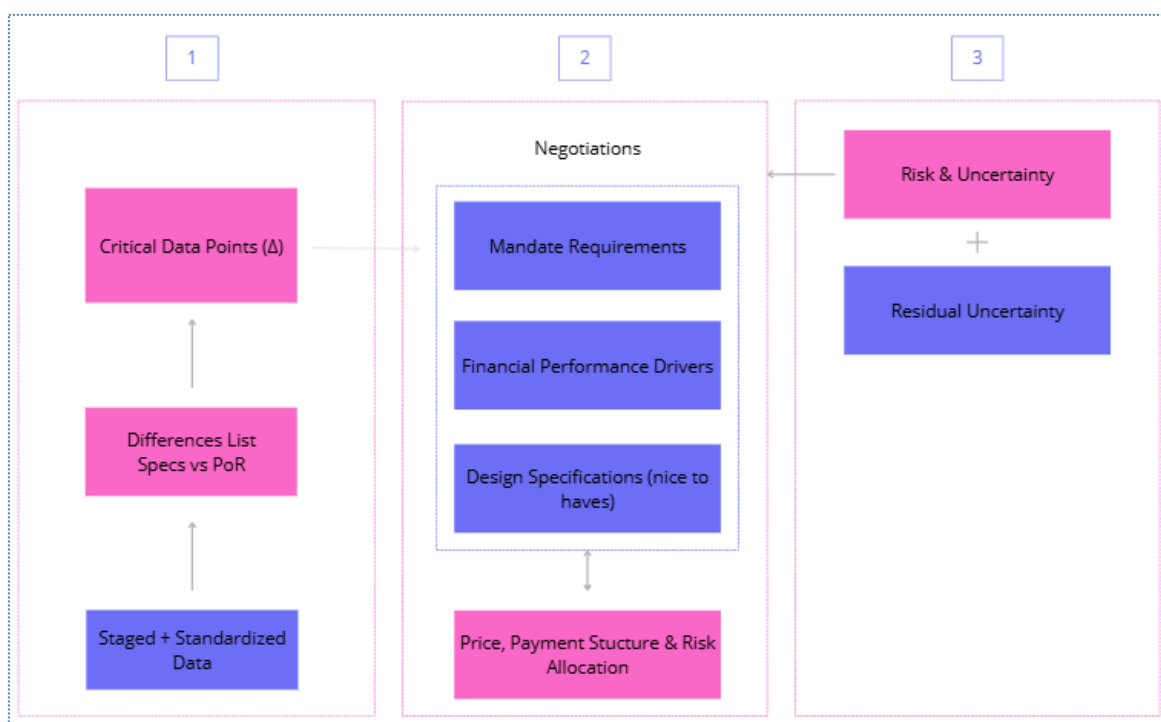
### Alteration Block 2:

Segmentation of asset specification coherent with demand logic

### Alteration Block 3:

Making residual uncertainty explicit

When adapted to the Current Dealmaking framework, it can be visualized as follows, with the alterations in blue:



### 4.3.1 Block 1 – Funneling Initial Data

The alteration of block 1 is based on enhancing efficiency of funneling initial data, combined with the potential of automizing block 1. While the components within the process are said to be done by an external party, technological advancements—like AI or other computing possibilities, may have the potential to execute the process of block 1 by itself. This would not only have the potential to lower transaction cost, but also enhance the efficiency of the process. However, the alteration is not only based on this potential. If standardized vocabulary is used, the parties that currently execute this process do not have to lose as much time on determining divergent definitions (Wiesweg, 2022). Thus, this alteration focusses on the general use of standardization in enhancing negotiation flow.

Standardized data formats for data exchange facilitate the usage of similar numbers and financial models, which decreases the probability of mistakes and increases decision-making efficiency (Moorhead, et.al., 2024).

This approach decreases re-trades and enhances trust, as information is presented transparently and comparably (Nezami et al, 2022; Park, 2020; Wiesweg, 2023). Consequently, standardization increases efficiency in RED FP/TK transactions.

### 4.3.2 Block 2 – Structuring Data In The Negotiation Process

The critical data points consist out of the discrepancies between what the asset's design has, and the investor's demand. They feed into the discussion on asset specifications in negotiations. Based on the exploration of the drivers and characteristics of institutional investors, the demand is driven by policy. For this reason, critical data points can be segmented to mirror the cascading logic of how institutional investors decide. This segmentation is also mentioned by one of the interviewees, and is an unspoken logic adapted in practice.

The impact of the 3 segments also differs. To give a clear example, ESG requirements are often part of the prerequisites for the acquisition of an asset. If data is not delivered during negotiations and/or verified during DD, it gets defined in contracts. Same goes for e.g. finishing quality (part of nice-to-haves in negotiation). For this reason, the financial performance drivers have the most significant impact on valuation.

#### Segmentation Of Asset Specifications

Within a staged and structured data-sharing framework, the identification and segmentation of different asset specifications is based on the different roles they serve. As elaborated in the *Principles Of Efficient Negotiation* section, efficient negotiation is based on aligning the informational, procedural and relational aspects of dealmaking. By segmenting asset specifications by the different roles, the framework increases efficiency by adapting to the negotiation workflow, and allowing processes to be conducted parallel to each other.

#### Financial Performance Drivers

As the negotiation trade-off consists out of asset specifications vs price, asset specifications that impact financial performance can be labelled as financial performance drivers and are ought to be treated as a core analytic data layer as they directly determine investor pricing logic and contracting positioning in the determined dealmaking corridor.

To elaborate on the impact of financial performance drivers, using a DCF for valuation logic: assumptions on e.g. market rent, impact NOI calculations and translates into a certain valuation. However, it extends beyond that. The financial performance drivers also consist out of the underlying market rent calculations. In Dutch residential assets, market rent is for example also based on WWS points. Thus, the financial performance drivers are the asset specification components that influence the valuation calculations.

### Mandate Requirements/prerequisites

Inherent to an institutional investor, are the mandates that drive them. Certain ambitions on ESG requirements (e.g. BREEAM Excellent, CRREM) for instance, are prerequisites to be able to acquire the asset. While the developer can ask for compensation to adhere to mandate requirements—if it increases cost, the impact on price is different than for financial performance drivers. Dev 1 stated that something can be added against an additional fee: 'meerprijs' (in this context referring to adding or removing an elevator). As elaborated in the *Policy To Practice* section, mandates define strategic boundaries for investment eligibility. These prerequisites are ought to be considered as a condition for an institutional investor to acquire an asset. This segment of asset specifications thus need to be fulfilled to enable a transaction.

### Design And Operational Specifications (Nice-To-Haves)

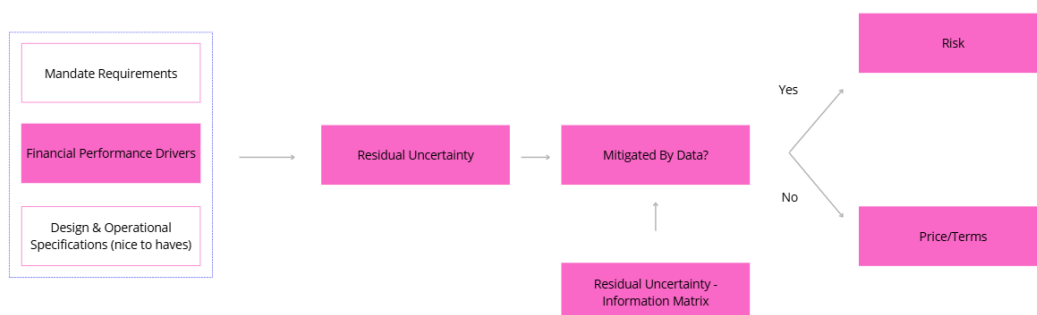
To clarify the definition of operational specifications in this context, the financial performance metrics concerning operations are not included. They are—as stated by one of the investors, part of the category “nice-to-haves” together with design specifications. The same investor stated that negotiations about this category are often at the later stages, as they are not a priority.

## 4.3.3 Block 3 – Residual Uncertainty – The Implicit Driver Of Negotiations

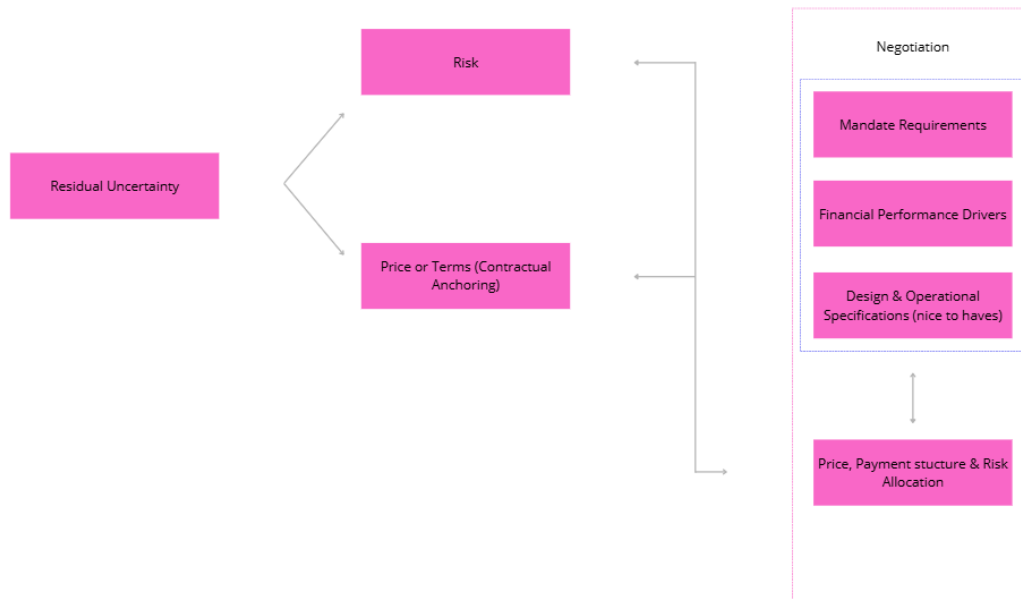
### Making Residual Uncertainty Explicit

Residual uncertainty is inherent to negotiations and never fully eliminable. However, by making residual uncertainty explicit it can be leveraged to facilitate balanced transparent data exchange as it becomes manageable, resulting in fairer pricing and negotiation alignment.

As mandate requirements must be met, and the nice-to-haves are not a priority, the significance of residual uncertainty in financial performance drivers becomes apparent for the pricing logic. Following Knight’s logic and information theory, after determining the residuals, this framework proposes the assessment of (potential) mitigation. Using a residual uncertainty-information matrix to determine which information mitigates what uncertainty. By doing so, unknown probabilities can be turned into known probabilities, which turns the uncertainty into risk. The data that mitigates the residual uncertainty can also be promised and added as a condition clause in the contract (e.g. if it is too early for a WWS calculation, but both parties want to close as soon as possible).



If not, the residual can be explicitly negotiated into targeted price/terms. This can then be fed back into negotiation topics.



While this already changes the way current negotiations are carried out, an extension of the potential the concept residual uncertainty has, is quantifying the residuals most material for price and terms that persist after DD.

## Quantifying Residual Uncertainty

Combining the ways in which uncertainty is judged and how residual they are, the quantification of the residuals most material to price and terms can be assessed.

The quantification—which both parties do separately, is as follows:

1. Identify the key residuals that impact pricing or terms, based on controllability and materiality
  - I. Maintain 6-8 to avoid redundancy
2. Determine residual type (helps with indication if it persists after DD)
  - I. Idiosyncratic or Systematic
3. Define possible outcome in the form of a state (low/base/high)
  - I. Following a standard simplification standard of three in decision analysis an valuation
4. Assign probabilities
  - I. Allocate probabilities to each state (subjective or market-based), ensuring they sum up to one
5. Assign an impact score
  - I. To indicate how much on-state shift can affect project value, yield or price following ISO 31000 likelihood-impact (probability x impact matrix)
6. Assess mitigation
  - I. Give a score to what extent the residual is mitigated (0=not at all, 1=fully mitigated)
7. Calculate RUS
  - I.  $RUS = H \times Impact \times (1 - mitigation)$

## 4.4 SYNTHETIC CASE

Now that the framework is built, a synthetic case tests the framework by applying its three-block structure to a realistic synthetic Dutch residential TK/FP transaction.

### 4.4.1 Deal Overview

**Project:** "Domus", 120-unit residential development in Utrecht

**Parties:** DEVolutions 'DS' (developer) and Future Capital 'FC' (institutional investor)

**Context:** TK agreement. FC has issued an NBO. DS has a final design (DO) and a granted build permit.

### 4.4.2 Block 1

**Action:** DS provides its project data using a standardized data (agreed terminology and vocabulary). FC provides their standardized PoR. An automated comparison (or third party like now) generates the differences list resulting in the deltas ( $\Delta$ ).

	$\Delta$	Elaboration
1	ESG Rating	Current design is BREEAM 'very good'. FC mandate requires BREEAM 'Excellent'
2	Unit Mix	Current design has 20 studio apartments (<30m2). FC's PoR caps studios at 10% (to de-risk its portfolio)
3	WWS Points	DS IM shows an estimated average of 187 WWS points for 3-bed units. FC's PoR aligns with the count, but requires validated WWS calculations for underwriting (impacts NOI (regulated rent))
4	Smart Systems	DS specified standard intercoms. FC's residential technical manager (and/or operator) requests a smart-key video system for operational efficiency)
5	Kitchens	DS specified a brand X kitchen. PoR lists 'brand Y or equivalent' for durability

#### Critical Pragmatist Note:

A developer can state that certain data is lacking, due to the stage of the RED process. However, this still reduces the inefficiency in negotiations, as further negotiations are not needed and data needs for the DD phase crystalize.

### 4.4.3 Block 2

**Action:** The  $\Delta$  list is segmented based on the framework's logic. This instantly structures the negotiation agenda, preventing mandate requirements to get mixed with less important design choices. In-practice insights reflect the possibility of resolving these design choices with the technical manager.

$\Delta$	Segment	Status	RU
1	Mandate Requirement	Non-negotiable (DS agrees to upgrade to 'Excellent' and provides cost uplift)	
2	Financial Performance Driver	To be negotiated/data needed	1
3	Financial Performance Driver	Data needed	2
4	Design Specification	Quickly resolved (Kitchens are changed for 'meerprijs' or kept the same)	
5	Design Specification	Quickly resolved (Intercom & smartkey systems are changed for 'meerprijs' or kept the same)	

### 4.4.4 Block 3

**Action:** Parties assess the risks and uncertainties after which is determined what can be resolved (with what data) and what remains uncertain.

Risk & Uncertainty	Elaboration	RU
Construction Inflation	DS's price includes an indexation clause capped at 4%	3
Regulatory Risk	FC analysts found that the municipality has announced there will potentially be a change to parking norms	4
Acquisition Approval Risk (IC Approval)	DS requests a formal representation and warranty (R&W) from the investor that they have the required capital and that all the internal approvals are met	5
Rent	Rent in the area is used to project cashflow, but as it concerns a RED it remains an uncertain variable which directly impacts pricing	6

RU	Information Needed	Owner/Source (responsible party)
1	Permit with unit mix	Developer
2	Validated WWS calculation report	Developer (from 3 <sup>rd</sup> party)
3	Confirmed status and applicability date of the new norm from the municipality	Developer (from municipality)
4	A guaranteed maximum price (GMP) or a revised cap from the contractor	Developer (from contractor)
5	Proof of fund's capital allocation & formal, written, and binding IC approval	Investor
6	Comparable Rents	Both (Comparables in the area)

RU	After Data Exchange	Uncertainty Status
1	The unit-mix is determined by the permit, but DS states that there can be changes within bounds of this permit	Resolved
2	DS provides a validated WWS calculation, which turns out to be 185 points in some of the units.	Resolved
3	Municipality confirmed that the norm is only applicable to new permits	Resolved
4	Contractor does not agree with a GMP due to high volatility	Unresolved
5	Investor states that IC approval can only be confirmed once most uncertainties are resolved	Resolved (given uncertainties are mitigated)
6	Both parties have their own estimate on what the expected rent is going to be	Unresolved

RU 4 & 6 remain uncertain and must be allocated. Both are systematic uncertainties.

### Quantifying Residual Uncertainty

Now that the persistent residual uncertainties are determined, both parties can assess the importance of the residuals based on their own agenda and perspective.

#### RU 4

Construction cost inflation and its impact is a residual that the developer has materially more expertise in. For this reason the following assessment will be based on shared subjective expectations.

**Residual:** Construction inflation rising above the contract's 4% cap.

**Material:** A 2% rise in inflation above the cap could erase a significant portion of the developer's profit and impact the investor's final YoC.

Estimation of probabilities for inflation exceeding the 4% cap are:

- Low State (4.5% inflation):  $P = 0.3$
- Base State (5.5% inflation):  $P = 0.5$
- High State (7% inflation):  $P = 0.2$

$H = -\sum P_i \log_2 P_i = 1.486$  bits with  $H_{max} = \log_2 3 = 1.585$

To get a value between 0-1 (for comparability) normalized entropy ( $H^*$ ) is used:

$H^* = H/H_{max} = 0.938$  (roughly 94% uncertain)

Impact of inflation on valuation is 5.

The 4% cap rate is already in the contract. Which provides partial protection against total inflation risk (30%):  $M = 0.3$

$RUS = 0.938 * 5 * (1 - 0.3) = 3.283$  with  $RUS_{max} = 5$

## RU 6

Qualitative research has surfaced rent to be a central point in disputes, as the conservative projections of investors, and optimistic projections of developers clash. For this reason, the following assessment reflects how the framework allows subjective expectations to be done separately, while maintaining the advantage of evidencing assumptions.

**Residual:** Future rent realization remains unverified at transaction signing (limited pre-leases or soft LOIs).

**Material:**  $\pm 10\%$  rent shift  $\approx \pm 10\%$  valuation change. Effective rent determines Net Operating Income (NOI) which directly impacts asset value.

Both parties communicate assumption:

- Low State (Investor EUR 7.2 p/m<sup>2</sup>)
- Base State (Comparable rents in the area EUR 8 p/m<sup>2</sup>)
- High State (Developer EUR 8.8 p/m<sup>2</sup>)

Party	Low	Base	High
Developer	0.15	0.55	0.30
Investor	0.35	0.45	0.20

Impact of rent on asset value =  $100\% = 5$   
Soft rental LOI's indicate 40% mitigation

### RUS Developer:

$H = -\sum P_i \log_2 P_i = 1.4058$  bits with  $H_{\max} = \log_2 3 = 1.585$

To get a value between 0-1 (for comparability) normalized entropy ( $H^*$ ) is used:

$H^* = H/H_{\max} = 0.887$  (roughly 89% uncertain)

$RUS = 0.946 * 5 * (1 - 0.4) = 2.661$  with  $RUS_{\max} = 5$

### RUS Investor:

$H = -\sum P_i \log_2 P_i = 1.5131$  bits with  $H_{\max} = \log_2 3 = 1.585$

To get a value between 0-1 (for comparability) normalized entropy ( $H^*$ ) is used:

$H^* = H/H_{\max} = 0.955$  (roughly 89% uncertain)

$RUS = 0.946 * 5 * (1 - 0.4) = 2.865$  with  $RUS_{\max} = 5$

The divergent RUS reflects the divergent approaches to uncertainty. Using their own subjective probabilities, both parties can make the pricing spread impact explicit. This application allows parties to specify where asymmetries are emphasized, making risk and uncertainty more explicit, and subsequently allows negotiations to be conducted more efficiently.

## 5 Discussion

This discussion synthesizes the findings of this research by interpreting them in relation to existing theory, prior research, and the empirical findings of institutional RED transactions. It starts by asking what actually influences negotiations between the parties and causes negotiation inefficiencies. Across interviews and practice-based observations, it became clear that negotiation outcomes are driven less by how much information is available than by how data and uncertainty are handled within institutional decision-making processes. Residual uncertainty is currently not simply reduced through data exchange, but often deferred, priced, or strategically maintained, especially within the LOI/NBO-SPA negotiation corridor where pricing and contractual terms are determined.

Additionally, less visible frictions that enforce negotiation inefficiencies include incompatibility of shared data and the interaction between idiosyncratic information and institutional governance requirements. These dynamics position the interpretation of structured data-sharing as an attempt to align data flows with institutional negotiation decision-making and for the reduction of implicit residual uncertainties, instead of a need for full transparency.

### 5.1 INTERPRETATION

#### 5.1.1 The NBO/LOI-SPA Corridor As A Critical Decision-Making Space

One of the main analytic choices in this research is the focus on the negotiation corridor between NBO/LOI and SPA. While the dealmaking phase starts before the issuance of a NBO/LOI, the findings justify understanding this phase as the critical decision-making space where uncertainty, bargaining power, and organizational objectives come together, making it the most relevant for the objectives of this research.

As elaborated in section 2.1.2, the literature on RED conceptualise transactions in RED as a linear process from feasibility to execution. However, empirical findings show that within the defined corridor, decision pressure is particularly high. Exclusivity clauses compress timelines, due diligence drives information demands, and internal IC deadlines put further restrictions on time of information exchange. At the same time price and contracts are yet to be fully formed, making remaining uncertainties particularly important for decision-making.

The qualitative findings revealed that it is within this corridor that these uncertainties—e.g. final specifications, are part of the negotiation. This insight advances staged RED models by showing that this negotiation corridor functions as a structural bottleneck: a phase where misaligned information flows and unresolved uncertainties translate directly into economic consequences.

By looking at this specific corridor, this research shows that improving negotiations is about acting at the right time. Structured data-sharing is only effective if it is aligned with this critical phase, where uncertainty has the most impact on negotiation outcomes.

## 5.1.2 Reinterpreting Negotiation Inefficiency Through Data Structure

Existing literature attributes negotiation inefficiencies surrounding data exchange in real estate transactions to information asymmetry, limited sharing of data and lack of standardisation. However, these explanations seem to treat information as something that is either shared or not shared. This would mean that full transparency would reduce these inefficiencies. However, all developers that were interviewed stated a willingness to be fully transparent, but: 'I have noticed that when you share too much information, you get unnecessary questions' (DEV 1). The findings of this research thus suggest a more nuanced interpretation: inefficiency arises not only from a lack of information, but from how information is structured, sequenced, and aligned with institutional decision-making processes. This suggests that asymmetry is not only quantitative but also architectural. Information that arrives too late, in incompatible formats, or without clear adherence to investor governance criteria fails to reduce uncertainty and may even amplify it.

This finding introduces information structure as a bridge between data disclosure and decision-making usefulness. This shows that transparency alone is insufficient and that it matters whether information is decision-useful at the moment it is required. The qualitative findings show that institutional investors evaluate projects through staged governance filters. When information does not correspond to these filters, uncertainty persists and is priced through valuation buffers, contractual protections, or re-trades. This reinterpretation provides a more precise explanation for why inefficiencies persist even in transactions between highly professional parties.

## 5.1.3 The Impact Of A Probabilistic Future On Negotiation Outcomes

As established, FP/TK deal rely heavily on data, as the subject of negotiations does not exist yet. Because the asset is a probability rather than a reality, small differences in assumptions that are uncertain can create a significant difference in valuations of investors and developers. The difference between 10 and 10.5 may be relatively insignificant, but when it concerns something that is multiplied by thousands—in cases of large volume (institutional transactions), this difference changes a lot. The risk averse nature of institutional investors introduces these certainty premiums: lower price to protect against the unknown. Accordingly, negotiation friction here is reinterpreted as struggle to align two different probability expectations.

### 5.1.4 Residual Uncertainty As A Negotiated Object

One of the key conceptual contributions of this research is residual uncertainty. Current risk-management and valuation framework implicitly assume that uncertainty is something to be eliminated with additional information and/or modelling. The findings of this research extend current beliefs by showing that uncertainty often persists by design.

Interview results show that both developers and institutional investors acknowledge that some uncertainties cannot be resolved without significant cost or delay. More importantly, some uncertainties serve as strategic value during negotiations. As long as uncertainty remains implicit, it can be priced in by using conservative assumptions, pricing buffers, or contractual clauses without it being explicitly discussed.

For this reason, this research defines residual uncertainty as part of the negotiations. An important insight distilled from the qualitative findings, is that parties may prefer ambiguity over clarity when it serves them by creating bargaining leverage. For example, the timing of the investor entry in the developers workflow significantly impacts the amount of residual uncertainty. If a developer is already close to their final design before approaching capital, they can be expected to be in possession of data that can mitigate most uncertainties. However, developers treat this data as strategic resource to maintain competitive advantage as seen through the RBV lens in section 2.3.2. By first testing what assumptions the investor comes up with, the developer can see whether the investor's assumptions and underlying uncertainty is in favour of them when it comes to pricing and terms, and if a developer already has sufficient capital to operate an asset on their own, their approach to negotiations and dealmaking partners may differ based on their focus on executing their vision.

This refers back to one of the first pieces of literature that triggered this research. Wiesweg (2022) states that one of the reasons that data sharing is limited, is because of trust and misalignment issues. While data sharing can be in the interest of both parties, developers can still first ask for a valuation from the investor. Following this logic, data can be quantified, triggering an assessment of whether it is favourable to share data, or not.

Residual uncertainties that must be uncovered before closing like validated WWS-sheets, reflect why reframing residual uncertainty as a negotiated subject, explains that negotiations can stall or be impacted by re-trades. When residual uncertainties are not specified, parties may believe that their expectations align, until third-party verification or due diligence require implicit assumptions to be verified. At that point later in dealmaking, uncertainty comes back into negotiation in a less desirable manner. Making residual uncertainty explicit earlier does not eliminate disagreements, but it transfers them to an earlier stage where they can be discussed constructively.

As elaborated in section 2.6.2, this research differentiates residual uncertainties that persist after closing and residuals that are mitigatable by data before closing. By acknowledging the residuals that are mitigatable, data needs are made tangible and negotiable. By applying a RUS to the residuals that maintain after closing, the same logic of facilitating negotiability of uncertainties is applied, by defining clear parameters that reflect assumptions. Parties can actively trade who owns the residual (e.g., the developer accepts a retention clause for specific inflation risks in exchange for a higher baseline price). If the uncertainty cannot be mitigated by data, it is priced logically. The discussion shifts from "the price is too high" to "this RUS justifies a specific yield adjustment."

## 5.1.5 Strategic Disclosure – Adoption Constraints And Incentives

The adoption of a structured data-sharing framework is highly dependent on incentives. Developers own most early-stage data, and divergence in developer types—as described in section 2.2.1—manifest in the incentives to share this data. Speculative developers can realistically be expected to delay disclosure when it works in their favour as elaborated in the example in section 5.1.4. This positions withholding information as a strategic response to a competitive environment. Fee-based developers act as service providers where complete data early shows competence. While the incentive for the fee-based developer is to adhere to the data-driven collaborative nature of the institutional investor (satisfying the clients program), for speculative developers this means that adoption of the framework cannot be based on goodwill. For them to consider the framework to be useful, structured data-sharing should be the least costly option.

Catalysts to adoption could be through mandated use from investors (seen as for example in banking ecosystems that require certain reporting) tied to exclusivity in the NBO/LOI or less governance heavy filtration systems for deals that use the framework.

Some incentives however are more generally applicable. The incentives for the institutional investors to apply the framework are:

- Governance compatibility
- Reduced transaction cost
- Defensible risk premia

While for the developer the incentives are:

- Price defensibility
- Process control (maintaining oversight in RED)
- Process speed

## 5.1.6 The Negligence Of Triangulation

Operator perspectives are often underutilized while their insights form a bridge between theoretical performance and the realities of asset operations (Miles et al., 2015). During the internship—as well as in the interviews conducted for this research, asset managers are said to often be involved at a later stage nearing closing, while their data streams directly influence variables central to valuation models. When these operational perspectives are utilized too late, untested assumptions on maintenance costs, lease-up rates, or tenant turnover enter pricing models unchecked. This can cause inflated buffers or clauses designed to shift implicit risks rather than explicitly agreeing on operational cost and revenue expectations. Accurate maintenance cycle mapping, noting capital intensive components, can provide a timeline of predictable CapEx events that investors can embed into their DCF projections (Park, 2020).

Without this information delivered in parallel to design and construction specification, investor models tend to assume generic industry benchmarks. These benchmarks may misrepresent the actual asset operation, altering projected yields and triggering conservative assumptions during governance review cycles (Wiesweg, 2022).

This adds a dimension of improvement for the framework. The embedding of the operator earlier in the negotiation may help better assessment of the operations phase, which directly impacts the investors valuation.

## 5.2 LIMITATIONS & TRANSFERABILITY

As the framework is an alteration of the already existing dealmaking architecture—basing the direction of alterations on empirical insights and founded in expanded literature review, its credibility and application are significant. Research discrepancies and researcher bias may have impacted findings, however, this research forms a credible foundation for understanding the secretive nature of developer-institutional investor dealmaking and data sharing in Dutch context.

Although concepts and contents of documents are mentioned by interviewees, there is a possibility certain extra subjects were missed. The contents of documents are further elaborated based on available literature, which is sensitive to problems inherent to real estate, e.g. asset specificity (location, asset class etc.). While mitigation measures were taken into account—like retrieving information from multiple sources that are applicable to the Dutch context (for NBO/LOI for instance, apart from academic literature, Dutch law firms and their exemplary documents were referenced), this creates the potential for small discrepancies, of which the impact is not accurately measurable.

The secretive nature of (off-market) deals between institutional investors and developers, complicates referencing research findings to available data. While this was attained by conducting the internship, company bias can heavily influence the perception of a researcher when actively partaking in the day-to-day orders of business and having responsibility within a firm. Here, the distinction between market data and company data is proven to not only occur in systematic variables.

While standardization is recommended by this research, researchers and in-practice attempts to standardize data, have proven standardization to be difficult. However, standardization in other fields have taught it is possible if mandated from capital providers, like banks.

Realistically, this research has bridged the current gap in literature surrounding negotiations and dealmaking between institutional investors and developers—especially in Dutch context. By acknowledging current (competitive) negotiation practices, as well as the divergent characteristics, the framework unites visions and workflows and the synthetic case has proven the logic to be feasible. Future recommendations for the framework include the testing of the framework with practitioners. The fact that this is not executed by this research also forms a part of the limitations. Willingness to share subjective assumptions without sharing direct impact on projected outcomes was a reoccurring sentiment of practitioners. However, it remains a question if this same willingness prevails when executed in the context of the framework.

The most important function of this research is recommending a realistic way to unite divergent approaches (to risk & uncertainty) in negotiations, and enhancing data needs tangibility, as data and standardization needs in real estate practices are growing.

## Limitations Of The RUS

The first main limitation of the RUS is the subjectivity of probability and impact estimates. While used in risk assessment practices, this limits transferability of historical data of the RUS. For example, 2 practitioners from the same organisation may assign different values, which makes comparability of quantitative outcomes based on historical data difficult.

This same subjectivity may incentivise the exaggeration or understating of uncertainty to improve their negotiation position. However, the RUS is not designed to measure uncertainty objectively, but rather as a decision support tool that surfaces subjectivity to make hidden disagreements about uncertainty visible.

Lastly, quantification can create the impression that uncertainty is fully controlled even if it is not. This stresses the importance of treating RUS output as subject of discussion instead of a deterministic input. The value of the score is highlighting where uncertainty (and its impact) remains significant and insufficiently addressed.

## 6 Conclusion

This research investigated factors that influence negotiation outcomes and how negotiation inefficiencies between developers and institutional investors in Dutch TK/FP transactions arise to determine how a structured data sharing framework can enhance current dealmaking practices. Through literature review and empirical research the findings show that said bottlenecks stem from intertwined drivers: inconsistent and fragmented data flows, divergent characteristics—subsequently divergent approaches to risk and uncertainty, and timing asymmetries sporadically by strategic information withholding. These dynamics collectively cause negotiation cycles to be stretched, inflate contractual buffers, and contribute to valuation divergence.

### 6.1 ANSWERING THE RESEARCH QUESTIONS

The first research question—**what data is currently shared that actually impact negotiation**—is answered by a detailed mapping of existing information packages. Early data consists prominently of teasers, IM's, visuals, and high-level project facts, while due diligence packages contain technical, legal, ESG, and compliance information. However, only a subset of these directly shape negotiations and negotiation processes: Design specifications, PoR alignment, expected NOI, rent assumptions, build cost-related data, energy & ESG performance, and mitigation of key uncertainties & risks. Interviews show that financials and cost build-ups are commonly withheld to maintain leverage and operator-relevant insights are utilised late, reflecting how selective disclosure causes valuation asymmetry.

The second research question—**how obligations and norms shape data sharing**—revealed that Dutch legal obligations are known and taken into account, while their impact on behaviour is rather intertwined with informal norms like professional trust, respect for exclusivity, and market expectations. These norms shape how information is sequenced and withheld. Although complete transparency is not forced by binding obligations, informal professional conduct facilitates predictable disclosure, while investor governance cycles and developer workflow cycles impose structured timing requirements. Together the obligations incentivize careful staging of information while reinforcing risk-averse behavior among institutional investors who rely on verifiable, consistent documentation before approval processes can proceed.

The third research question—**how risk and uncertainty shape negotiations**—shows that although explicit risks are negotiated directly, a source of pricing tension are implicit residual uncertainties that persist after DD. Data is fragmented and most information have the function of mitigating uncertainty. Where early discovery of persistent residual uncertainties can expedite negotiations, residual uncertainty can function as a measure of data needs during negotiations.

Systematic uncertainties are separately researched by both parties, but idiosyncratic uncertainties depend on the developer's information, reinforcing information asymmetry. By applying entropy-based quantification, this research demonstrates how residual uncertainty materially drives pricing spreads, influences contract clauses, and prolongs negotiations. Residual uncertainties around rent, construction timing, regulatory shifts, and OpEx assumptions have high materiality and cannot be ignored without inflating buffers and triggering re-trades. The triangulation between developer-investor-operator further expands the set of uncertainties that must be addressed, as operational performance assumptions ultimately shape investor valuation and risk allocation.

The fourth research question—**what a structured framework should include, and what barriers and catalysts shape adoption**—was addressed by designing and a three-block deal-flow structure based on current negotiation practices. Block 1 introduces standardized vocabulary and staged initial data, reducing early-phase misalignment. Block 2 categorizes asset specifications to match investor decision logic, improving comparability and reducing noise. Block 3 operationalizes residual uncertainty through a quantitative scoring system (RUS) that makes implicit uncertainties explicit, negotiable, and comparable. The framework's feasibility is strengthened by stakeholder validation: developers benefit from more efficient negotiations, investors benefit from clearer risk mapping, and project managers benefit from procedural discipline. Catalysts include trust, compatibility with institutional governance cycles, technological tools that automate difference-checking, and growing market demand for standardization. Barriers include strategic incentives to withhold data, asset-class heterogeneity, and sectoral resistance to mandated standards.

Bringing these answers together to answer the main research question—**how can a structured data-sharing framework enhance dealmaking**—this thesis concludes that a structured data-sharing framework can meaningfully improve negotiation efficiency—not by eliminating the competitive nature of real-estate transactions, but by aligning data flows, clarifying responsibilities, and quantifying uncertainty in a way that preserves strategic interests. By embedding phased disclosure, standardization, operator insights, and residual-uncertainty assessment, the framework creates a realistic, empirically grounded enhancement to current dealmaking practices. It provides a new angle to shorter negotiation timelines, reduced valuation drift, fewer re-trades, and more predictable outcomes—bridging divergent approaches to risk and uniting developer and investor objectives more effectively.

## 6.2 IMPLICATIONS & CONTRIBUTIONS

This research portrays that negotiation inefficiencies in Dutch FP/TK transactions stem mostly from misaligned information structures—fragmented disclosure, incompatible data formats, divergent risk & uncertainty perspectives, and timing asymmetries, instead of only limited transparency. The framework therefore has several implications.

Structured sequencing of data reduces valuation drift and re-trades, and makes SPA formation more efficient by aligning information exchange with investor governance processes. A residual uncertainty matrix makes risk allocation easier to defend by distinguishing risks that be validated from uncertainties that must be negotiated. Overall, the framework standardizes disclosure, aiding in stronger trust while preserving negotiation leverage.

The framework enhances Dutch contract principles and supports on-going developments in market-wide standardization in data. Its structure is compatible with other asset classes where similar asymmetry and timing gaps exist.

The concept residual uncertainty has significant impact on current understanding of uncertainty and data.

The quantification of residual uncertainty allows the divergent perspectives to be translated in a tangible manner. It allows the translation of qualitative assumptions into grounded numeric values, allowing discussions to become more focused, and data needs to crystalize

Academically, this study:

- Reconceptualises negotiation inefficiency through the lens of data compatibility and timing
- Deconstructs current data sharing processes that form the overall data sharing in dealmaking practices
- Establishes residual uncertainty as a central concept in understanding negotiation inefficiency, by making data needs tangible
- Provides empirical insight into how residual uncertainty manifests through the NBO/LOI-SPA corridor
- Shows how structured data-sharing reduces the transaction cost
- Translates theoretical insights into a practical structure for uncertainty governance.

This research has also created a foundation for recent developments on (CSRD) reporting. By linking the value of information to a mutual interest of profitability and making uncertainty a tangible parameter, reporting can now be funnelled to this same mutual interest. A different dimension in which sharing data is not obstructed by the competitive nature of negotiating a deal.

## 6.3 RECOMMENDATIONS FOR FUTURE RESEARCH

Future research could further delve into how structured data-sharing frameworks through a wide set of FP/TK transactions. This facilitates a thorough assessment of the effect it has on negotiation efficiency and valuation stability. The concept of residual uncertainty can be further developed and the introduced formula for assessing residual uncertainty can be further optimized and/or adapted to adhere better to actual negotiations. Repeated application then allows research to assess uncertainties that are inherently irreducible.

The framework can also be altered and tested in other countries, to see what the impact of different jurisdictions and governance cycles has on its applicability.

The practical application of the framework using technological advancements could be a valuable solution to current dealmaking practices as it can automate shortening negotiation gaps.

# 7 Appendix

## APPENDIX INDEX

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## APPENDIX I – SOURCES

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***Use of translation & AI Tools***

***ChatGPT - Open AI's AI & DeepL.com were used to translate and correct sentences to English***

## APPENIX II – DUTCH CONTRACT LAW CLAUSES

Maak-law.com (Dutch law firm), Dutch civil law book (Burgerlijk wetboek), and archive analysis provided the following table. The clauses are also backed by other literature stating what is negotiated during dealmaking.

Dutch clause name	English equivalent	Function
Overmacht (clause)	Force Majeure clause	Excuses performance when unforeseen events beyond the party's control make performance impossible (Art. 6:75 BW)
Boetebeding (clause)	Penalty clause / Liquidated damages clause	Specifies a pre-agreed fixed sum or performance for failure to comply with an obligation; access to fast remedy and deterrence. (Arts 6:91-94 BW)
Garantie bepaling / Garantie clause	Warranty clause	The party giving a guarantee of certain facts or conditions (e.g., quality, conformity, title) and allocates risk (Boek 6; Verbintenissenrecht)
Verklaring en waarborg ("representations & warranties")	Representations & Warranties clause	The party provides statements of fact (representations) and undertakes certain guarantees (warranties)
Voorwaardelijke verplichting / Ontbindende voorwaarde	Condition precedent / termination condition	A clause making performance or closing contingent on a future event or condition (e.g., obtaining permits, certifications).
Covenant / Verbintenis (affirmatief / negatief)	Affirmative/Negative covenant	Promises to do (affirmative) or not to do (negative) something during performance (e.g., maintain standards, refrain from actions)
Prijsaanpassingsclausule / Earn-out / Indexeringsclausule	Price adjustment / earn-out / indexation clause	Adjustment of price or payment terms depending on future events (cost inflation, performance metrics, ESG outcomes)
Verzekering & Zekerheidsclausule	Insurance & security clause	Obligation to obtain insurance or provide security (guarantees, bonds) to cover risks.
Stap-in-recht / Cure-recht clause	Step-in / cure rights clause	Allows one party (e.g., investor) to

		step in or require remedial action if the other party fails its obligations.
Beëindigingsovereenkomst & Ontbindingsclausule	Termination / rescission clause	Sets out rights to terminate the contract for cause (breach, non-compliance)
Specifieke prestatieclausule	Specific performance clause	Obligation (or recital of right) to enforce performance of the obligation rather than only compensation.
Audit-, rapportage- en informatieclausule	Audit / reporting rights clause	Gives rights to review, audit, inspect, monitor performance, info flow – mitigates information risk.
Geschiloplossings- Arbitrageclausule /	Dispute resolution / Arbitration clause	Sets out mechanism for resolving disputes (mediation, arbitration, expert decision) to reduce uncertainty.
Wijzigings- heronderhandelingsclausule (onvoorziene omstandigheden) en	Hardship / renegotiation clause	Deals with changed circumstances making performance excessively burdensome (Art. 6:258 BW)
Aansprakelijkheidsbeperkingsclausule	Limitation of liability clause	Limits the liability of a party for certain types or amounts of damages.
Volledige overeenkomst-clausule / "entire agreement"	Entire agreement clause	States that the written contract constitutes the full agreement and supersedes prior negotiations.

The weight and prominence of the presence of clauses is significantly impacted by the transaction type. R&W's and *Garantiebepaling* are especially significant in the FP/TK context. Opaque contractual buffers thus is reflected in the extent of detail and coverage these clauses are written in.

\*Haviltex—as explained in the Dutch Law section, forms an extra dimension separate from clauses that cannot be eliminated by an entire-agreement. Only a specific clause in which Haviltex is renounced can do this, which is not a standard practice. Jurisprudence also portrays the complexity of eliminating Haviltex.

## APPENDIX III – ORDER OF RESPONSIBILITY IM

IM firms serve as vehicles for institutional investors (Baum & Hartzell, 2021). Institutional investors are ultimately the asset owners—pension funds, insurers, endowments and sovereign wealth funds—that set policy and strategic allocations across asset classes. This policy will be further elaborated in the characteristics chapter. By contrast, IM (real estate advisers/asset managers) are hired agents that structure and run vehicles on behalf of these owners—most commonly separate accounts (tailored, client-owned portfolios) and commingled real estate funds (capital pooled across institutions)—and execute sourcing, underwriting, financing, asset management and exits for a fee (Ling & Archer, 2018).

However, as the internship conducted for the research was done with an IM firm, it is important to understand the responsibility waterfall these firms adapt. To further explain the responsibility waterfall at an IM firm, below an example of the interorganizational embedding of the responsibility an IM firm has on the operation of an asset is illustrated, where the operator is often an external party; “Managing equity investors may, in turn, perform the property management duties themselves ... **or hire an independent third-party property management firm.**” (Ling & Archer, 2018).

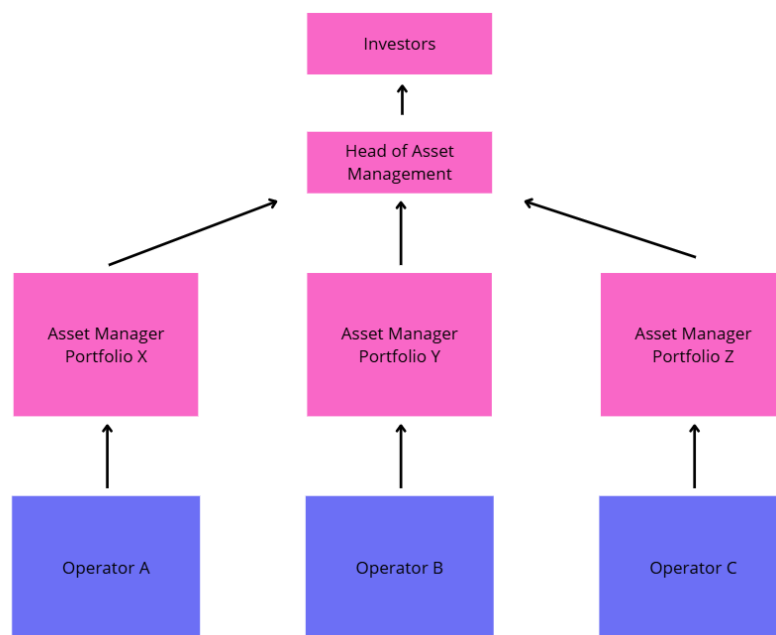


Figure 9: Responsibility waterfall example IM firm

The importance of portraying this waterfall lays in the fact that the operations still indirectly fall under institutional investors.

## APPENDIX IV – REFLECTION

Looking back at the start of this research, I did not expect this outcome. My intrigue for data driven real estate stemmed from my personal interest in finance and the way data availability in many financial assets is completely different. Yet, real estate is often perceived as one of the core investments in many investment portfolios. Upon reflecting on the way that both developers and investors have a mutual interest in a development creating value and subsequently profit, I found it strange that transparency and data availability are conflicted with the personal objectives for both sides. As one of my personal traits is trying to find a solution instantly, I started thinking in real time data sharing, while my heart steered me to risk and how it is handled.

After many talks with my first mentor—Dr. Ir. Michael Peeters, who shared the overlapping passion of finance and real estate, I translated and funnelled my abstract ideas of what intrigued me, to a clear objective: let's make dealmaking better for everyone and leverage data sharing to do so.

And there it was: to what extent can structured data sharing enhance dealmaking. At that stage it was rough around the edges, but I knew that due to the increase in data driven decision making in real estate, I found something that could actually contribute academically and practically. To do so however, I needed a strong academic foundation as well as a clear direction. This is where both Michael and Dr. Zac Taylor helped guide me and make sure that this research became academically strong.

This was the start of a rabbit hole, of which I did not know to what extent the findings would be of such significance; at least I believe so. Because what started as an abstract idea of leveraging data sharing in enhancing dealmaking, turned out to be something I have yet to read in academic literature.

Choosing the methodology to have the right tools to conduct the research was tricky. I knew that available literature mostly lacked Dutch practices, and the secretive nature of (real estate) investments. I understood the need for qualitative research, but while conducting the preliminary research I also understood that one of the biggest literature gaps was in the impact of informal obligations on negotiations—as law is broadly described. This led me to conduct an internship and actually work on transactions; something I believe has had a great impact on guiding me towards actual workable solutions that practitioners would deem valuable. It was actually an internship insight that made me feel confident on the choice of semi-structured interviews, as I noticed that while I feel familiar with financial and real estate related subjects, I have yet to learn so much from people that have been active in the sectors for many years. As the research continued, I was thinking about conducting a framework validation as a final check to see if the framework is applicable, but as the quantitative translation of qualitative aspects had gotten shape, I thought back at what my initial mistake was at the beginning of my research; I am not 'reinventing the wheel', nor am I solving a problem that has been going on for so long in such a relatively short time. I am developing a new angle combining what is already known, putting it into context using qualitative research, and ultimately adapting it to what exists instead of trying to force new ways of assessment—using the power of compound effect with small changes to create large change. I do believe that a framework validation would work, but I already noticed in the interviews that there is great reluctance in adopting solutions. Only if it is forced—e.g. reporting, or by monetary benefit. Nonetheless, this would in my opinion be an enhancement of the

enhancement that this research has provided.

Well there I was. I had conducted my qualitative research, but there were so many gaps. I was so confident I had reviewed enough literature, but it just did not make sense. What is the function of data exactly and why is there no uniform way to link the importance of data to negotiations? I noticed patterns. The investor said that the developer is an optimist, and vice versa. The developer says I want to be transparent, but not lose profit. So how can I link 'controlled transparency' to data exchange and the divergent perspectives these professionals have?

The answer of this question was funny enough another question: what is the role of data? For the investor, a brick is worth a brick—as well as for the investor. So where does the divergent valuation come from? The data is used to translate uncertainties into risk, know what risks a project holds, and then translating them into price or contract terms. I found the link, and for a minute felt like I was on top of the world. Well at least at that time I was still figuring out the different categories of asset specifications, but I finally understood the link between data sharing and negotiations. Then came my proudest moment: a new concept, "*Residual Uncertainty*". A tangible way to define what is needed to be known or mitigated. I did not stop there. At the beginning of the research I shared with Michael my familiarity with economics and math so I felt the need to prove myself. Let me turn this residual uncertainty into a numerical value that we can actually use. Once again something that lacks in current literature. However, residual uncertainty is not a completely new thing. Just like this research fills the gap of combining efficiency and transparency, it fills the gap of residuality and uncertainty—linking risk management and assessment to data practices. So using the current available literature and theories of both, we can use proven formulas to create something useful. At this point I already achieved what I wanted to achieve both academically as on a personal level.

The last supervisions I noticed that the topics of discussion shifted to making sure the master thesis was written correctly and readable. Something I believe Zac has been an instrumental guide in, which has allowed me to be more thorough.

Specifically due to this thoroughness, together with my adamant attitude, I am content with my research and do believe it is a must read for Dutch real estate practitioners. Maybe it could use polishing or even probabilistic stochastic DCF adaptations, but one thing is for sure: It is the start of something that could steer the direction of current real estate investments and developments significantly. At the very least, it has allowed me to grow professionally and academically.