

THESIS



NAVIGATING RGS RISKS

SEAMLESS TRANSITION SOLUTIONS

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THESIS

Preface

In this thesis I aim to examine the potential challenges and risks associated with using the RGS-method. By understanding and addressing these risks, I hope to contribute to the knowledge about service-oriented business models in the real estate maintenance industry. Throughout this thesis, I will provide an overview of the risks and challenges related to the use of the RGS-method. These risks will be prioritised based on likelihood of occurrence and organisational impact. When the most important risks are identified, risk mitigation strategies are developed to minimize these risks.

I would like to thank Mr. Raymond Loohuis for his valuable support and guidance during the development of my thesis. Also, I would like to thank Wolters B.V. for this opportunity and guidance during this research project. As a Master of Business Administration student, I am exploring the risks and challenges of the use of the RGS-method.

I hope you enjoy reading it.

Enschede, January 2024

Mandy Middelburg

Management summary

Wolters B.V. provides a wide range of real estate maintenance services, such as building maintenance, repair, and renovation (Wolters Vastgoedonderhoud en Schildersbedrijf in Deventer, 2022). This organisation will be used as a case study (see paragraph 1.5). In 2014, the firm embraced the **Resultaat Gericht Samenwerken** (RGS) method, a collaborative approach to real estate maintenance that focuses on delivering measurable results and outcomes.

The RGS-method, also known as result-oriented maintenance (Resultaat Gericht Samenwerken in Dutch), is a framework designed to **optimize and streamline maintenance procedures in the real estate industry**. It aims to switch the focus from traditional transactional relationships to a more collaborative and result-oriented strategy. This RGS-method consists of phases 0 to VII (Piekhaar, 2021).

The goal of this research is to identify the potential risks and challenges associated with the use of the RGS-method in the real estate maintenance industry and to develop strategies that can help Wolters B.V. mitigate these risks and ensure a smooth transition towards a service-oriented business model. The research question that will be examined is:

“What are the potential risks and challenges associated with the use of the RGS-method in the real estate maintenance industry, and how can risks be mitigated and challenges tackled to ensure a smooth transition towards a service-oriented business model?”

Qualitative research has been conducted, which includes document analyses and stakeholder dialogues. The **document analyses** is used as a basis for all the ins and outs about risk management of the RGS-method. In the **stakeholder dialogues** new risks are found and tested, also risks found in literature are tested. The respondents were asked to prioritize these risks based on the risk control matrix. The risks in this matrix are placed by determining the probability (likelihood of accuracy) and the impact (impact on organizational change) per risk.

The risks with the highest priority are risk 6 (risk found in literature), risk 14 (risk found in literature), risk 5 (risk found in literature), risk 23 (risk found in literature), risk 8 (“new risk”) and risk 25 (“new risk”). Hereby the following mitigation strategies are developed in collaboration with 3 respondents: addressing **organizational misalignment (risk 6)**, recommendations include careful implementation of chain collaboration, involvement of all organizational levels, a focus on improving interpersonal relationships, promoting

transparency, always include a certain degree of customization, staff competencies alignment with project areas, and involvement at management level to prevent tactical-level discussions. **Complex environment (risk 14)** mitigation involves long-term cooperation, project-independent agreements, a clear collaborative process, and ensure continuity and performance agreements. **Ineffective project governance (risk 5)** is countered by engaging independent consultants, prioritizing essential aspects, having a good information provision, and drawing up a risk file. To mitigate **other stakeholders' lack of capabilities (risk 23)**, agreements on capacity, effective collaboration processes, adherence to laws are essential, increase capacity by hiring additional manpower and the knowledge of the employees, involve multiple chain partners, ongoing training, and the risk file must be elaborated. **Lack of organizational support (risk 8)** is addressed through integration strategies for new employees, recurring training sessions, collaboration with other maintenance companies, organizational alignment with RGS principles, and the creation of a strategic goal. **Legal risks in governance (risk 25)** mitigation involves contract clauses allowing termination due to new legislation, advocacy efforts, and strategic legal framework design.

These mitigation strategies will help a smooth transition towards a service-oriented business model in the real estate maintenance industry.

The practical implications of this study extend beyond its immediate focus on Wolters B.V. The findings underscore the importance of a strategic approach that leverages the inherent risks and challenges associated with transitioning towards a service-oriented business model. This research provides a roadmap for companies in the real estate maintenance industry looking to embrace the RGS-method. Organizations should take a proactive approach to risk mapping. It may thus encourage companies to add an additional phase aimed at identifying risks that may be unique to their implementation of the RGS-method.

Future research should **expand its scope** beyond Wolters B.V. to include a broader range of companies. By exploring additional firms, the found risks in this research can be compared or supplemented with new found future research risks. Future research should also entail a **broader sample** that will provide a more balanced picture. Additionally, a more **detailed exploration of risks 18 and 19** is suggested in future research to enhance the overall understanding of challenges associated with the RGS-method. Another future research proposal is to **include a risk mitigation strategy for risk 31** that is missing due to human error. Lastly, future research can **test all the risks again** within the same respondents. In this way, validity is tested. Additionally, also test these risks with new respondents to obtain even greater reliability of the results.

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1. Introduction

This chapter will highlight the research aim and an introduction of Wolters B.V. and its RGS-method. Furthermore, the relevance of this paper will be discussed.

1.1 Wolters B.V.

Wolters B.V. is a company that provides a wide range of services in the real estate maintenance industry, including building maintenance, repair, and renovation (Wolters Vastgoedonderhoud en Schildersbedrijf in Deventer, 2022). This organisation will be used as a case company (see paragraph 1.5). The company has adopted the **Resultaat Gericht Samenwerken (RGS) method** in 2014, which is a collaborative approach to real estate maintenance that focuses on delivering measurable results and outcomes. Unlike traditional maintenance approaches that view maintenance as a one-off product, the RGS-method treats maintenance as a service that requires ongoing collaboration between clients, contractors, and suppliers (Wolters Vastgoedonderhoud en Schildersbedrijf in Deventer, 2022a). A shift towards a service-oriented business model has the potential to bring various benefits, it also comes with potential **risks and challenges that need to be carefully considered and addressed**. As a result, Wolters B.V. need to adopt a strategic approach that takes into account both the opportunities and risks presented by this shift towards a service-oriented model.

1.2 RGS-method

The real estate maintenance industry is going through a lot of changes, and service-oriented business models are becoming more and more important. In this context, the RGS-method has become a well-known strategy used by businesses in this sector. With a particular emphasis on the insights offered by Wolters B.V., this research project aims to evaluate the potential risks and challenges related with the use of the RGS-method.

The RGS-method, also known as result-oriented maintenance or performance-based contracting (Resultaat Gericht Samenwerken in Dutch), is a framework designed to **optimize and streamline maintenance procedures in the real estate industry**. It aims to switch the focus from traditional transactional relationships to a more collaborative and result-oriented strategy. It offers significant benefits to property managers, ensuring cost control, maintenance quality, and long-term value preservation. As a result, more and more housing corporations and real estate managers are adopting the RGS-method (Wolters Vastgoedonderhoud en Schildersbedrijf in Deventer, 2022a).

The past years show continuous transformation from product focus to a service focus in both research and business (Hypko et al., 2010). This is where **performance-based contracting (PBC)** comes in. PBC is a method in which a client and a contractor collaborate to achieve a specific performance goal (Hypko et al., 2010). Performance-based contracting involves buying and selling the performance that certain resources would provide (Mouzas, 2016). As mentioned before, the RGS-method, that is used in the real estate maintenance industry, is a form of PBC.

The RGS-method consists of phases 0 to VII (Piekhaar, 2021). Figure 1.1 shows these phases and their critical aspects (Piekhaar, 2021).

Within the RGS-method, Wolters B.V. takes responsibility for bringing and maintaining real estate at a predetermined and **stable quality level**, based on agreed performance requirements. This includes a well-balanced consideration of themes such as safety, health, energy performance, usability, future value, and living quality (Wolters Vastgoedonderhoud en Schildersbedrijf in Deventer, 2022a).



Figure 1.1: RGS-method: Phases (left) and their critical aspects (right)

In practice, the RGS-method with Wolters B.V. means guaranteeing the agreed-upon performance outcomes. RGS-method translates into:

- Satisfied residents;
- High efficiency;
- Insight into quality;
- Control over costs;
- Both now and in the future.

(Wolters Vastgoedonderhoud en Schildersbedrijf in Deventer, 2022a).

Wolters B.V., a major player in the real estate maintenance industry, has used the RGS-method in its operations. They are a great source of insights for this research since they have gathered a lot of **knowledge and expertise concerning its implementation**.

1.3 Research aim

The RGS-method is often used because there are so many positive aspects to the use of it. For example, consider longer contracts and therefore more certainty for the various stakeholders. But there are also risks associated with the use of the RGS-method. It is important to identify and prioritize these risks. In this way, the most important risks can be identified, and mitigation strategies can be created. The goal of this research is to identify the potential risks and challenges associated with the use of the RGS-method in the real estate maintenance industry and to develop strategies that can help Wolters B.V. mitigate these risks and ensure a smooth transition towards a service-oriented business model. Despite the potential transformative power of the RGS-method, there may also be concerns regarding its completeness. The main research question that will be examined is:

“What are the potential risks and challenges associated with the use of the RGS-method in the real estate maintenance industry, and how can risks be mitigated and challenges tackled to ensure a smooth transition towards a service-oriented business model?”

To explore the main research question, a set of sub-questions has been formulated to provide a comprehensive overview of the study. These sub-questions are divided. The first part is of these questions are the sub-questions that are dealt with in the literature review, in chapter 2 of this research proposal. The second part are the sub-questions that are part of the elaboration of further (field) research. In the literature research in chapter 2:

“What does the literature say about the potential risks and challenges involved in transforming business models into service-oriented business models?”

“How can these risk and challenges be prioritized in terms of impact according to the literature?”

At the end of chapter 2, a conceptual model will be outlined. This model will entail risks and challenges and their impact associated with transforming a business model into a service-oriented business model.

Guided by this model, the following questions will be answered in the field research of this study:

“Which risks and challenges occurred during the use of the RGS-method?”

“How do stakeholders respond to the risks and challenges proved by the literature?”

“According to the case company, what risks and challenges must be prioritized for impact?”

Based on the answers of the above mentioned research questions, a high risk-low risk table will be drafted, and the following question will be answered: *“How can the RGS-model be*

enriched based on the findings of practice (the case study) and risks and challenges?”. This table will entail the risks and challenges that have the most impact on the case company and its activities.

1.4 Relevance of the study

The **academic relevance** of this study lies in its possible contribution to the existing body of knowledge on service-oriented business models and the real estate maintenance industry. The study may give new insights and recommendations on how to effectively implement a service-oriented strategy in this market.

The **practical relevance** of this study lies in its potential to provide valuable guidance and recommendations for companies like Wolters B.V. who are considering or have already adopted the RGS-method in their real estate maintenance operations. The study's findings could help these companies mitigate the potential risks and challenges associated with this transition and ensure a successful adoption of a service-oriented business model.

1.5 Research design

A **qualitative single case study methodology** will be used in this research design to examine the RGS-method's adoption in the real estate maintenance industry (Heale & Twycross, 2018; Benders, 2021). This research will entail actively engaging with stakeholders through observation, stakeholder dialogues, and discussions while immersing in the sector and reviewing relevant documentation (Pathak et al., 2013; Bhandari, 2023). A thorough understanding of the risks and challenges will be developed related with the RGS-method by collecting data from various sources and stakeholders.

First, a **literature review** will be done to see what risks and challenges are already found within the shift towards a service-oriented business model. These risks will be prioritized in terms of impact and probability.

After the literature review, **documents** like a book about guidelines of the RGS-method will be analysed in order to gain understanding of the basics of (risk management of) the RGS-method. To take my own notes, I will hold **stakeholder dialogues**. This will help identify the key risks and challenges. The next step is to sit with Wolters B.V. and look at the answers given by the respondents. In this way, **risks can be prioritized** based on the risk control matrix.

The collected data will then be analysed, which will be put in a **high-risk/low-risk table**. This table prioritizes the most significant risks. A subset of high-risk risks will be chosen for detailed examination, with the goal of developing effective risk mitigation solutions. This will be done by include these risks in the **risk control matrix**.

Professional judgement will be used to come up and assess the relevant **risk mitigation strategies**. The goal is to provide helpful suggestions and strategies to help organisations in the real estate maintenance sector make a smooth transition to a service-oriented business model.

Overall, the qualitative single case study will provide insightful information on the risks and challenges associated with the use of the RGS-method, allowing for a thorough investigation of potential solutions for successful implementation and retention of the RGS-method (Heale & Twycross, 2018; Benders, 2021).

2. Theory

In this chapter a description of existing research tells us about this subject and which keywords and search engines will be used to conduct the research.

2.1 Search engine and keywords

To find enough information to answer the research question, databases must be searched using keywords. Keywords are words that can be searched for in order to find appropriate literature. Keywords that match the research question mentioned in 1.3 can be found in figure 2.1 below. See Appendix I for Scopus and Web of Science links and associated search results. In figure 2.2 there is an overview of inclusion and exclusion criteria for the use of relevant papers.

Concepts	Keywords (synonyms)
RGS-method	Outcome-oriented collaboration, result-focused cooperation, performance-based, output-driven working, goal-directed collaboration, achievement-oriented partnership, target-focused working, outcome-based collaboration, and results-oriented cooperation. *
Real estate maintenance industry	Property maintenance sector, building maintenance industry, property services industry, building operations and maintenance field, property management and maintenance industry and building care and maintenance sector.
Risks and challenges	Hazards and obstacles, perils and difficulties, threats and impediments, uncertainties and drawbacks, vulnerabilities and complications, setbacks and barriers, pitfalls and limitations and adversities and constraints.
Service-oriented business model	Service-centric business model, solution-driven business model, experience-based business model, service-based business model and outcome-oriented business model.

Figure 2.1: Concepts and keywords

(Philip Lief Group, 2022; Synonym.com, n.d.).

Inclusion criteria	Exclusion criteria
Studies that entail the real estate maintenance industry	Studies that use website evaluation tools instead of disability tools
Studies that entail RGS-method	Studies that have a high risk of biases
Articles published on Scopus or Web of Science	Articles before the year 2000
Studies between the year 2000 and 2023	Publications in other languages than English or Dutch.
Publications in English or Dutch.	

Figure 2.2: Inclusion and exclusion criteria

*Note that while these terms convey similar ideas to the RGS-method, they may not capture the exact nuances or specific frameworks associated with the RGS-method.

2.2 What does the literature say about the potential risks and challenges involved in transforming business models into service-oriented business models?

The paper of Schulte et al. says that there are three potential risks involved in implementing a service-oriented business model. First risk is **loss of autonomy**. This can result from different causes. The second risk is **profile loss** with reference to the customers. The third risk is **easier exchangeability of products**, stemming from increasing specialization (see appendix III for further elaboration) (Schulte et al., 2008).

In the paper of Chang & Lue there are 4 risks identified. These risks are **insufficient technology planning**, **lack of expertise**, **ineffective project governance**, and **organizational misalignment** (listed in the order of strength of influence) (see appendix III for further elaboration). The research findings are expected to help managers understand and address the risks associated with adopting service-oriented systems, emphasizing their importance in decision-making processes (Chang & Lue, 2008).

In the paper of Nudurupati et al. (2016) one of the main conclusions from the existing research on servitisation is that it has three important weaknesses. First, a lot of research **have little practical use and are conceptual in character**. Second, there aren't many empirical studies, and when there are, the **results are frequently based on a single case study** and the insights of a small group of senior managers. Third, because data is typically gathered after an event in these organizations, the **dynamics often aren't fully investigated** (see appendix III for further elaboration) (Nudurupati et al., 2016).

According to the case studies in Hou and Neely's research (2017), the two primary risk categories in OBCs are **commercial risk** (contract discussions and decision-making at the contracting stage) and **operational risk** (OBC implementation and delivery). This research identified 23 risk factors (see figure 2.3) that can lead to commercial and operational risk (see appendix III for more details) (Hou & Neely, 2017).

In Josephson et al.'s (2015) paper, the shift towards a service-oriented model is associated with four risks. First, service shift may result in a **loss of strategic focus**, which could increase business risk and cause market scepticism. Second, service transition **requires substantial resource commitments**, and a lack of resources may indicate vulnerability and reduce a company's capacity to meet customer expectations. Third, service transition **requires intrafirm cooperation**, but the creation of new coalitions and potential conflicts with existing factions can generate internal strife. Fourth, service transition often involves **capability**

retooling, developing new or seldom used capabilities, which can introduce ambiguity and disruption (see appendix III for further elaboration) (Josephson et al., 2015).

In the table below, figure 2.3, is an overview of all the risks and challenges that are found in the literature explored above.

# risk	Risk/Challenge	Authors
1	Loss of autonomy	(Schulte et al., 2008)
2	Easier exchangeability of products	(Schulte et al., 2008)
3	Insufficient technology planning	(Chang & Lue, 2008)
4	Lack of expertise	(Chang & Lue, 2008)
5	Ineffective project governance	(Chang & Lue, 2008)
6	Organizational misalignment	(Chang & Lue, 2008)
7	Have little practical use and are conceptual in character	(Nudurupati et al., 2016)
8	Few empirical studies, and the results are often based on a single case study	(Nudurupati et al., 2016)
9	Dynamics often aren't fully investigated	(Nudurupati et al., 2016)
10	Involvement of multiple stakeholders	(Hou & Neely, 2017)
11	Diversified customer demands	(Hou & Neely, 2017)
12	Unclear customer demands	(Hou & Neely, 2017)
13	Complex contracts	(Hou & Neely, 2017)
14	Complex environment	(Hou & Neely, 2017)
15	Dynamic customer demands	(Hou & Neely, 2017)
16	Dynamic environment	(Hou & Neely, 2017)
17	Long-term contracts	(Hou & Neely, 2017)
18	Providers' lack of capabilities to contract OBC	(Hou & Neely, 2017)
19	Providers' lack of capabilities to deliver OBC	(Hou & Neely, 2017)
20	Providers' internal inconsistency	(Hou & Neely, 2017)
21	Providers' internal resistance	(Hou & Neely, 2017)
22	Customers' lack of capabilities to consume the delivery and to play their roles	(Hou & Neely, 2017)
23	Other stakeholders' lack of capabilities to perform	(Hou & Neely, 2017)
24	Mismatching in goals between providers and customers	(Hou & Neely, 2017)
25	Mismatching in visions between providers and customers	(Hou & Neely, 2017)
26	Mismatching in practices between providers and customers	(Hou & Neely, 2017)
27	Mismatching in understandings between providers and customers	(Hou & Neely, 2017)
28	Mismatching in culture between providers and customers	(Hou & Neely, 2017)

29	Mismatching in bargaining power between providers and customers	(Hou & Neely, 2017)
30	Dependency on customers	(Hou & Neely, 2017)
31	Dependency on other stakeholders	(Hou & Neely, 2017)
32	Upfront investments	(Hou & Neely, 2017)
33	Loss of strategic focus	(Josephson et al., 2015)
34	Requires substantial resource commitments	(Josephson et al., 2015)
35	Requires intrafirm cooperation	(Josephson et al., 2015)
36	Capability retooling	(Josephson et al., 2015)

Figure 2.3: All risks and challenges of service-orientated business model (a.k.a. servitisation) found in literature

There are probably way more risks that could be involved but this will depend on the case.

2.3 How can these risks and challenges be prioritized in terms of impact according to the literature?

A risk control matrix, also known as a risk assessment matrix or a probability-impact matrix, is a tool used in risk management to **assess and prioritize risks** based on their potential impact and likelihood of occurrence (Duan et al., 2016). The matrix typically consists of a grid with two axes: the impact axis and the probability axis (Duan et al., 2016).

In the case of the use of the RGS-method in the real estate maintenance industry, the type of impact that will be used is the **impact on organizational change**. Organizational change was defined by Damanpour as “a pre-emptive action” or as a response to environmental changes. Since the focus is on transitioning to a service-oriented business model, it is important to understand the impact of this change on the organization. Identifying the impact of organizational change can help assess and control the risks and challenges associated with the transition to the service-oriented business model. Thus, the impact axis represents the potential consequences or severity of a risk if it occurs. This axis is divided into very low, low, medium, high, and very high. This will indicate the degree of impact (Austin & Claassen, 2008; Damanpour, 1988).

The probability can be assessed through **historical data analysis, qualitative research, quantitative research, and expert opinions**. The probability of the risks mentioned in paragraph 2.2 is determined by examining historical data, specifically the papers in which these risks were found. The likelihood or probability of risk is represented by the probability axis. Rare, unlikely, possible, likely, and very likely are the categories of this axis (Dumbravă & Severian Iacob, 2013; Robertthart, 2021; Ni et al., 2010).

By plotting risks on the matrix based on their estimated impact and probability, organizations can visually see the **importance of each risk**. This helps in determining the appropriate risk mitigation or control measures to be implemented for each identified risk (Calle, 2022; Stratton, 2022; Financial Crime Academy, n.d.; Boogaard, 2022). See figure 2.4 for this risk control matrix that will be filled in in paragraph 2.4.

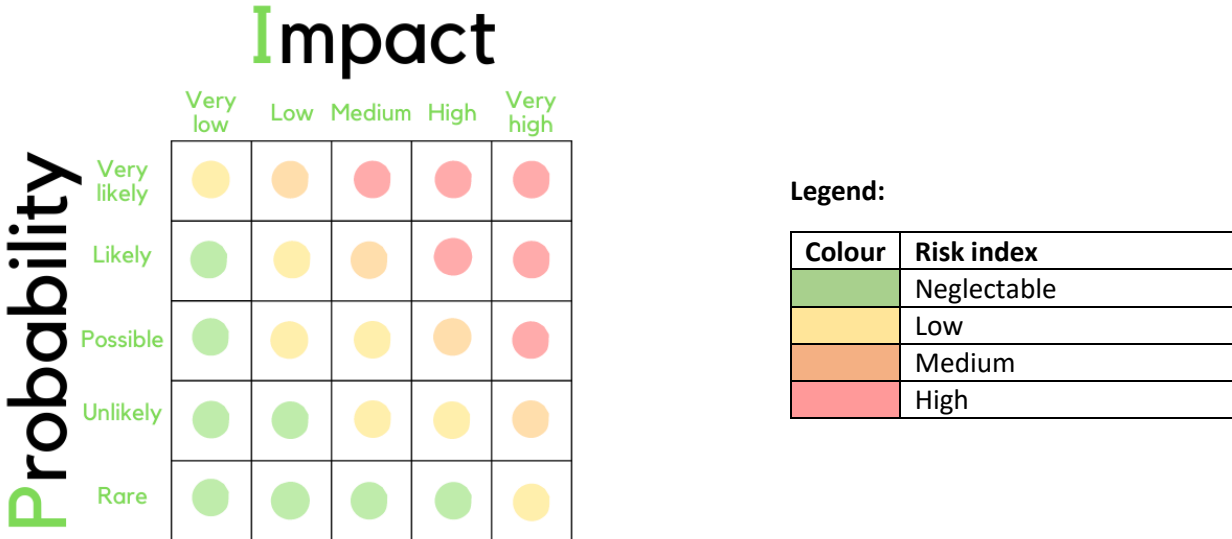


Figure 2.4: Risk control matrix (unfilled)

2.4 Conceptual model of risks and challenges

This assessment is based on historical data and a subjective view. This is because these risks cannot be linked to a specific case. In later research, these risks will be mapped and based on stakeholders these can be placed in the right category. See figure 2.5 for this risk assessment. In figure 2.6 the risks are mapped into the risk control matrix (in later research these steps can be found in the appendices).

See appendix IV for a short explanation of how these risks are categorised.

Risk	Severity	Probability	Risk index (Severity x Probability)
1	Very high	Rare	Low
2	Medium	Possible	Low
3	Medium	Possible	Low
4	High	Unlikely	Low
5	High	Likely	High
6	Very high	Unlikely	Medium
7	Low	Possible	Low
8	Low	Likely	Low

9	Medium	Possible	Low
10	High	Likely	High
11	Medium	Possible	Low
12	High	Possible	Medium
13	Medium	Possible	Low
14	High	Possible	Medium
15	Medium	Very likely	High
16	Medium	Very likely	High
17	Medium	Very likely	High
18	Medium	Possible	Low
19	Medium	Possible	Low
20	Medium	Possible	Low
21	High	Possible	Medium
22	High	Possible	Medium
23	High	Possible	Medium
24	High	Possible	Medium
25	Medium	Likely	Medium
26	Medium	Likely	Medium
27	Medium	Likely	Medium
28	Medium	Likely	Medium
29	Medium	Likely	Medium
30	Very high	Possible	High
31	High	Very likely	High
32	High	Likely	High
33	High	Rare	Neglectable
34	High	Possible	Medium
35	Medium	Possible	Low
36	Medium	Possible	Low

Figure 2.5: All risks and challenges from literature in high risk/low risk table

(Ni et al., 2010).

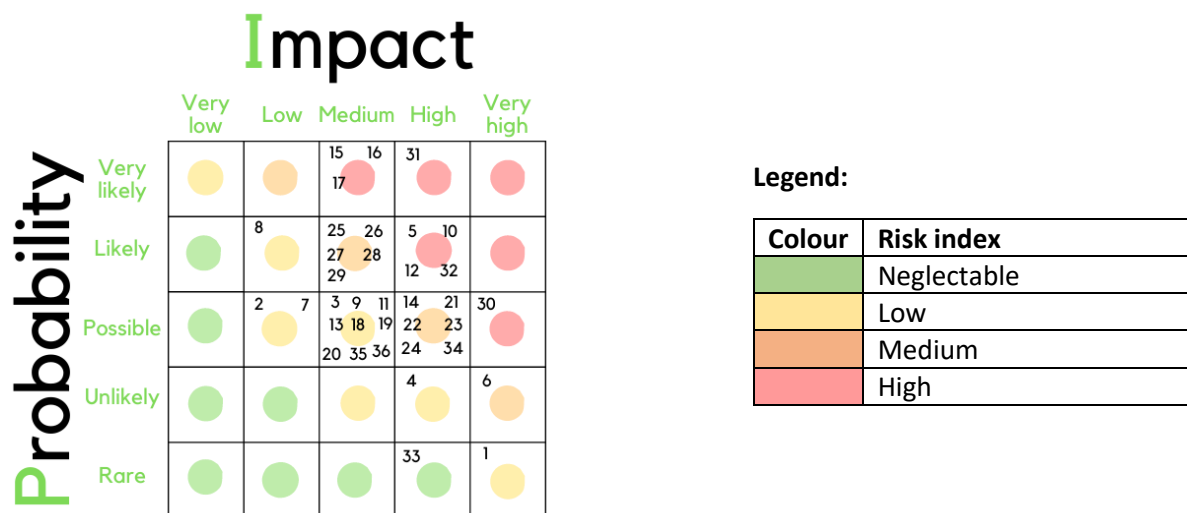


Figure 2.6: Risk control matrix (filled in with literature risks)

The literature review in the previous paragraphs provided an overview of the risks and challenges associated with the RGS-method. Due to the risk control matrix risks can be assessed and categorised. However, it is important to take in mind that the literature alone does not provide a complete picture.

The literature review identifies possible risks, but there are still gaps that need to be filled in. Gaining these significant insights may be obtained from the practical application and implementation of risk control strategies in **real-world scenarios**. To close these knowledge gaps and obtain a better grasp of the real procedures and metrics in use, more study through field research is required.

The field research will enable direct **involvement with stakeholders**, resulting in a more detailed assessment of the risks and mitigation solutions. By analysing real-life scenarios and collecting firsthand data, the study will improve the findings' validity and application.

Overall, the literature review and the field research will contribute to a more thorough understanding of the risks and challenges associated with the RGS-method and provide useful recommendations for efficient risk management.

3. Method

This research investigates the risks and challenges related to the RGS-method in the sector of real estate maintenance. A research methodology will be explained, which will be used to collect relevant data and assess the results.

This research focuses on Wolters B.V., a prominent company in the real estate maintenance industry, which serves as a great case study for understanding the real-world implications of the RGS-method. Even while Wolters B.V. is a key component of my study, it is important to note that my research remains objective and scientific in nature. Wolters B.V.'s engagement allows for a thorough examination of the application and potential risk mitigation strategies inside their organisation. This chapter will describe the procedures that will be used to perform the field research.

3.1 Qualitative research

Qualitative research is a type of research methodology that **focuses on understanding and interpreting the meaning and subjective experiences of individuals or groups**. It aims to explore in-depth insights, perspectives, and context-specific information rather than relying on numerical data and statistical analysis. Qualitative research methods involve collecting and analysing non-numerical data, such as stakeholder dialogues, observations, and textual analysis (Pathak et al., 2013; Bhandari, 2023).

Qualitative research is chosen because it helps gather detailed insights and **understand the diverse aspects of transitioning to a service-oriented business model**. It allows for exploring different perspectives and gaining a deeper understanding of stakeholders' experiences and perceptions in the real estate maintenance industry. Overall, qualitative research provides a suitable approach for investigating the potential risks and challenges associated with the use of the RGS-method and offers valuable insights to inform strategies for risk mitigation and addressing challenges during the transition process.

3.2 Case study

A **case study** is used to analyse the real-world scenarios of a company that has already adopted the RGS-method and examine the risks and challenges they faced during the transition towards a service-oriented business model. A case study can be either qualitative or quantitative, depending on the research approach and methodology used.

In qualitative case studies, the focus is on gaining a deep understanding of a particular case or phenomenon through in-depth exploration and analysis of rich qualitative data. This may involve stakeholder dialogues, observations, and analysis of documents or artifacts.

Qualitative case studies aim to provide a detailed description and interpretation of the case, often with an emphasis on context, meaning, and subjective experiences (Heale & Twycross, 2018; Benders, 2021).

On the other hand, quantitative case studies involve the collection and analysis of numerical data to examine patterns, relationships, or statistical trends within a specific case or across multiple cases. This may involve surveys, measurements, or statistical analysis techniques to draw generalizable conclusions (Heale & Twycross, 2018; Benders, 2021).

Ultimately, the choice between qualitative and quantitative approaches in a case study depends on the research questions, objectives, and the type of data that is most relevant and useful for addressing those questions. Researchers may also employ mixed methods approaches, combining qualitative and quantitative elements, to provide a more comprehensive understanding of the case. Whereby, this research will mainly focus on the qualitative part of the case study. There could also be a quantitative part, but this depends on the kind of information that will be shared by Wolters B.V. (Heale & Twycross, 2018; Benders, 2021).

In the research that will be done, a **qualitative single case study** will be used. This type of case study focuses on one company, Wolters B.V. This case company adopted the RGS-method. The RGS-method is, as mentioned before, a collaborative approach to real estate maintenance that focuses on delivering measurable results and outcomes (see paragraph 1.2). Wolters B.V. will provide opportunities to explore the risks and challenges associated with applying this method. One of these opportunities is that stakeholder dialogues can be held with two clients of Wolters B.V. that works together on the basis of this RGS-method, 2 employees of Wolters B.V. and 3 other stakeholders that are expert in the use of the RGS-method. This way I can explore risks and challenges that the client and other stakeholders experience. Other techniques such as document analyses will also be used. See paragraph 3.2.1 and 3.2.2 for the elaboration of the techniques that will be used in this field research.

3.2.1 Document analysis

In this study, information will be gathered through **document analysis**. I will carefully go through multiple documents such as a book that is used as a guideline by Wolters B.V. that provide insightful data on, for example, what the various phases of the RGS-method are. By reading this book I want to gather important information that will help develop a thorough

understanding of the RGS-method and the risks related to it. I will also analyse a risk management training of OnderhoudNL, a document of risks of market requests from the client, and another book “Leidraad ondersteuning opdrachtgevers bij RGS-projecten”. This way I would like to gain more insights about the risk management from different sides of the RGS-method. My goal for conducting this document analysis is to gather practical knowledge that will serve as a strong foundation for my research (Universiteit Utrecht, n.d.). I will examine the data that will be gathered to look for patterns and potential solutions. This will give important information for improving the RGS-method and reducing risks and challenges (Hamlin, 2022; Morton et al., 2016; (Dingemans, 2021).

3.2.2 Stakeholder dialogue

A strategic stakeholder dialogue goes beyond traditional dialogue by emphasising systematic and proactive procedures for long-term strategies (Van Tulder & Valkema, 2004). It strikes a balance between moral values and practical solutions to complex organisational issues, with stakeholders sharing their expertise (Van Tulder & Valkema, 2004). The discourse is focused on challenges and responsibilities, with the goal of achieving long-term policy solutions (Van Tulder & Valkema, 2004). Combining effectiveness with values provides the foundation for widely accepted and successful outcomes that serve a greater goal (Van Tulder & Valkema, 2004; Morgan, 2021). In this study, the risks of the RGS-method are addressed through stakeholder dialogues.

Stakeholder dialogues will be conducted to gather insights on the risks and challenges associated with the RGS-method. This is used to gather primary data from key stakeholders (Van Tulder & Valkema, 2004; Morgan, 2021). It is used to understand their perceptions and opinions about the RGS-method and the potential risks and challenges involved in each phase of the RGS-method (Van Tulder & Valkema, 2004). The respondents that will be selected for the stakeholder dialogues will be two clients of Wolters B.V. who applies the RGS-method in their interactions with the company, two employees of Wolters B.V. who work with this method, the co-founder of the RGS-method, someone who works at the trade association, and a process supervisor of transformation organization. These stakeholders were chosen based on contacts that Wolters B.V. advised. By listening to their experiences and opinions, their viewpoints on the risks, and practical aspects of the RGS-method can be observed and in which phase of the RGS-method each risk is in. Dialogues are held with different types of stakeholders so that this report creates a broad overview of the existing risks and challenges. See appendix V for the subjects for the stakeholder dialogues.

3.3 Abductive research

Abductive research is a form of reasoning and a research method often used in scientific methodology. Abductive research has the ability to explain, build, or modify the theoretical framework prior to, during, or following the research process, in contrast to inductive and deductive reasoning (Yin, 2013). In abductive research, the focus is on explaining previously found phenomena or facts through, for example, observations. The present research focuses on risks found in the literature are tested with stakeholders during the stakeholder dialogue. New risks are also asked for and found during these stakeholder dialogues. Later, the tested previous risks from the literature and the newly found risks with the highest priority are processed together into one figure.

3.4 High risk/low risk table

Once sufficient data has been collected, a high risk/low risk table can be created (see figure 2.4). This will be developed to **evaluate and prioritize the identified risks and challenges**. This table will include a list of potential risks and challenges obtained from the research findings. Each risk or challenge will be assessed based on its likelihood of occurrence and the potential impact it may have on the transition towards a service-oriented business model. Risks or challenges with a higher likelihood and significant impact would be categorized as high risk, while those with lower likelihood and less significant impact would be categorized as low risk. This will be processed in the **risk control matrix**, see figure 2.4. By using this figure, stakeholders, such as Wolters B.V., can gain a clear overview of the (most important) potential risks and challenges that are involved with the use of the RGS-method and the transition towards a service-oriented business model.

After filling in this figure, Wolters B.V. will be engaged to identify the risks that require further analysis. Recommendations will be formulated to **mitigate** these risks and address the corresponding challenges.

4. Results

In this chapter, a document analysis has been done on risk management of the RGS-method. Also, the outcomes of the stakeholder dialogue will be reported. Once these results have been processed, the risks that have the most priority can be selected, after which a mitigation strategy can be developed.

4.1 Document analysis

In this paragraph a document analysis will be done. This will include the book “Leidraad Resultaatgericht Samenwerken”, PowerPoints and a video that are part of the risk training from OnderhoudNL, a market request of the client of the case company Wolters B.V., and the book “Leidraad ondersteuning opdrachtgevers bij RGS-projecten”. The results of this analysis serve as a basis for all the ins and outs about risk management of the RGS-method that can be found in documents. These documents have been provided by Wolters B.V., clients of Wolters B.V. and other stakeholders of the stakeholder dialogues (see paragraph 4.2).

4.1.1 “Leidraad Resultaatgericht Samenwerken”

In this paragraph a summary of the most important information in the book “Leidraad Resultaatgericht Samenwerken” is given. This document analysis will include risk management as well as the phases of the RGS-method. This book is used by Wolters B.V. as a guideline for working with the RGS-method. In order to answer the research question, it is very important to gain an in depth understanding of this book to clarify the basics of the RGS-method.

To start with, it is important to know all **phases of the RGS-method**. These phases are as presented in figure 4.1 (Piekhaar, 2021).

Phase	Explanation
Phase 0 <i>Asset management</i>	In this phase, asset management receives the assignment to draw up the complex strategy, based on the portfolio strategy and financial translation. The goal is to decide on conservation, interventions, and/or disposition in the future. The outcome is a complex plan that, after approval and acceptance, results in the initiative decision (Piekhaar, 2021).
Phase I <i>Initiative</i>	Property management is given a project assignment for maintenance, intervention, or disposition using the Framework Agreement as the basis. The contractor investigates the task, creates a preliminary document, and provides

	guidance. Following acceptance and approval, the outcome is the selection of a final scenario, which influences the development decision (Piekhaar, 2021).
Phase II <i>Plan development</i>	After the development decision, the client issues a development assignment. The contractor conducts research, draws up initial maintenance and investment variants, and provides advice. The result is the choice of a final scenario after acceptance and approval, which leads to the scenario (decision) (Piekhaar, 2021).
Phase III <i>Plan elaboration</i>	Based on the scenario decision, the client optimizes measures of the chosen scenario. A final work description and budget are drawn up, and the maintenance and investment plan is accepted. Formal completion is the maintenance and/or investment decision (Piekhaar, 2021).
Phase IV <i>Project preparation</i>	Based on the maintenance and/or investment decision, the client gives the assignment for project preparation. Conditions are checked, and the starting decision is made after acceptance and approval (Piekhaar, 2021).
Phase V <i>Project Execution</i>	Based on the start decision, the client issues the order to start execution. The contractor is responsible for monitoring progress with quality measurement results (quality registration, product process measurements) and approved or not approved adjustments to implementation work. Formal completion is the completion decision or similar (Piekhaar, 2021).
Phase VI <i>Project transfer</i>	According to the completion decision, the client issues the assignment-project transfer. An integrated evaluation is carried out, and the result is the discharge decision (Piekhaar, 2021).
Phase VII <i>Management</i>	After the discharge decision, the client gives the order for the start management phase. Service & aftercare are provided, periodic measurements take place, and evaluations are carried out. The cooperation decision formalizes the completion (Piekhaar, 2021).

Figure 4.1: Phases of RGS-method

In all these phases are risks that can occur. Contractors, consultants and suppliers are asked to consider the risks of the project. By bundling knowledge and expertise in the chain, the RGS-method is better able to identify risks as early as possible and take appropriate measures (Piekhaar, 2021).

Contractors, consultants, and suppliers are asked to contribute to identifying risks in all phases of the project. By bundling knowledge in the chain, RGS can recognize risks at an early stage and take appropriate measures. Although safety and health risks are always the responsibility of the client, attention is paid in the process to drawing up H&S plans and coordination. The obligation to coordinate lies with the client. This must ensure that the

design takes into account the obligations for working conditions in the implementation phase. This concerns a Risk Inventory & Evaluation (RI&E) (Piekhaar, 2021).

Risk management is an important aspect of real estate management and production, where the level of risks in relation to the risk appetite influences decision-making. Determining control measures per risk is an integral part of this process. The risk capacity is the nature and extent of the risks that the real estate owner can bear in achieving his business and real estate objectives. Based on the risk capacity, a real estate owner determines his willingness to take risks ('risk appetite'). An annual internal control plan according to the 'three lines of defense' principle helps to maintain internal control:

1. The first line is primarily responsible for good internal control. When necessary, they implement process improvements to better manage risks (Piekhaar, 2021).
2. The second line (for example control) supports management (first line) in identifying and monitoring risks and developing supporting systems for process control, evaluations and accountability (Piekhaar, 2021).
3. The third line (audit) tests the design and operation of the processes, the risk management model (control frameworks). In other words: can judge whether the organization is 'in control' (Piekhaar, 2021).

Checklists can be used to assess risks in projects. For large projects, project risks can often be reduced to about ten themes, while for maintenance the practice is simpler. Gross and net risks are distinguished, and control measures are taken, such as accepting, reducing, transferring or avoiding risks. Risk and opportunity files are crucial for the systematic recording of risks, control measures and opportunities. It is the job of the RGS development and project team to assess possible risks at every stage of a project or process. A pitfall is that a client sets performance requirements too high with the aim of eliminating virtually all risks, while there is a good alternative to manage the risks (Piekhaar, 2021).

Managing risks and taking advantage of opportunities is, as mentioned earlier, integral to RGS, with a focus on continuous improvement and chain integration. A risk and opportunity file provides insight into the pros and cons of each scenario, allowing clients and takers to better understand their risks and returns. Risks are present in all phases of the process. By bundling knowledge and expertise in the chain at RGS, the number of risks is reduced (Piekhaar, 2021).

Some **examples of risks** that may arise during the phases of the RGS-method are (Piekhaar, 2021):

- *Technical*: safety, health, consequential damage;
- *Financial risks*;
- *Political risks*: support and decision-making;
- *Legislation*: planning, permits, occupational health and safety;
- *Image damage*;
- *Project risks*: money, planning, quality, capacity.

4.1.2 Risk training of OnderhoudNL

OnderhoudNL is the trade organization of specialists in real estate maintenance (Over OnderhoudNL, n.d.). A stakeholder dialogue was held with one of OnderhoudNL's employees. During this conversation he indicated that he had given a training on risk management and wanted to share this information with me from this training. In this section 2 PowerPoints and a video will be analysed and the important points that can help to answer the research question will be extracted.

According to this training, a risk is: "**The chance that an undesirable event will occur (future) times the effect/consequence of this undesirable event**" (Kunst & Staats, 2022). These risks can also form a chain: cause -> unwanted event -> consequence (Kunst & Staats, 2022). The difficulty with this is that the result of one thing can be the cause of something else (fault tree) (Kunst & Staats, 2022). Risk management is important in all phases of the primary process of the RGS-method and the larger the projects, the greater the risks (Kunst & Staats, 2022).

The focus of this training is:

- Risk management based on projects (not general business risks).
- Risk management based on project management GOTIK method:
 - Money (Geld)
 - Organization (Organisatie)
 - Time (planning, delivery date) (Tijd)
 - Information (Informatie)
 - Quality (agreed result) (Kwaliteit)

Figure 4.2 shows some methods used for risk management. A few of these methods will be discussed later in this risk management PowerPoint.

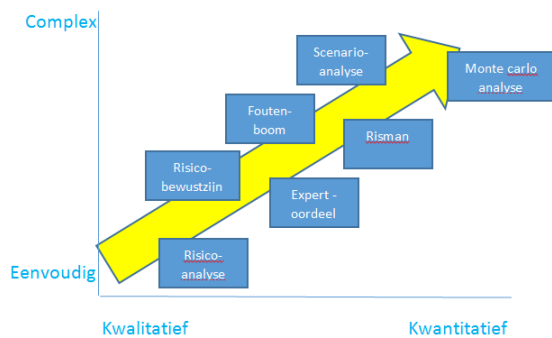


Figure 4.2: Methods for risk management (Kunst & Staats, 2022)

OnderhoudNL has used a **tolerance matrix**, see figure 4.3, which can be used to prioritize the risks based on the size of the impact and the likelihood that this risk will occur. This figure can be compared with the risk control matrix in section 2.1, which will be used later in this study to prioritize risk.

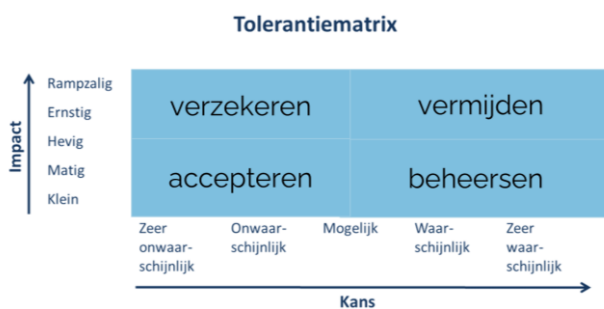


Figure 4.3: Tolerance matrix (Kunst & Staats, 2022)

According to OnderhoudNL, a strategy to reduce the risk is through insurance (Kunst & Staats, 2022). This strategy actually involves transferring:

- Legal: Defining scope and responsibility in contracts. The consequences are for someone else.
- Insurance: The consequences as such are for yourself, but the financial consequences will be reimbursed.

Several measures have been identified in this training to reduce risks. These are divided into **legal control measures** and **financial control measures**, see figure 4.4.

Legal control measures	Financial control measures
Record agreements and conditions in writing. Purchase and sales conditions	Fund formation
General terms and conditions (delivery and payment terms)	Insurance
Delivery conditions such as incoterms. Agreements are made between the parties about the division of the costs and risk of damage associated with a specific delivery of goods and transport.	Create reserves
Contracts	Contingency loan: A commitment from a bank to lend a pre-agreed amount on pre-agreed terms in the event of major damage
Employment contracts	Guarantees
File creation of poorly functioning personnel (performance and assessment interviews, correction interviews)	Distribution of suppliers and customers
Warranty provisions	Sufficiently weighing investments
Instructions	Interest rate, exchange rate and currency fluctuations
Liabilities (tort/default, exoneration or indemnity clauses)	Leasing
Compliance with agreements	Enforcing advances
Lease agreements: It is important to carefully investigate the lease contracts available in the company to determine how the risk distribution of the leased items is arranged.	Financial management instruments (ratios, investigation of budget differences, debtor problems)

Figure 4.4: Risk control measures (Kunst & Staats, 2022)

The OnderhoudNL training mentions the **RISMAN approach**. The RISMAN approach is used to analyse and manage risks in projects. RWS Bouwdienst, NS Railinfrabeheer, Twynstra Gudde, TU Delft, and Gemeentewerken Rotterdam collaborated to develop this approach between 1992 to 1999 (Kunst & Staats, 2022; RISKID, n.d.). This strategy takes into account risks from multiple (standard) perspectives. This strategy has the benefit of allowing for tailored approaches to maintenance projects and RGS-methods. Furthermore, the RISMAN technique is a standard, straightforward, and robust approach that can be implemented fast (Kunst & Staats, 2022). This training also describes two in-depth tools for risk management.

These are the **fault tree** and **scenario thinking**. A fault tree is a visual risk management tool that maps the causes of an adverse event. It starts with a terminal event at the top and branches down, where logic gates and events represent root causes. These logic gates are used to represent the relationship between different events. AND gates indicate that all connected events must occur to cause the end event, while OR gates indicate that one of the connected events is sufficient. Basic events at the bottom represent the final, unanalysable causes of the risk (Kunst & Staats, 2022).

Scenario thinking refers to the process by which organizations look ahead to possible future events, both desirable and undesirable, and develop strategies to anticipate them. This includes considering different future scenarios and planning the response to these scenarios. Key considerations in scenario thinking include determining the possibilities for anticipation, choosing the most appropriate options, determining the time of action, identifying the “point of no return” (the point at which certain choices are not more can be reversed), and determining decision-making responsibility (Kunst & Staats, 2022).

4.1.3 Risks of market requests from the client

Two documents have been analysed based on a market request from two customers. These customers wanted to receive some risks of this RGS-method in advance. These risks are listed below in figure 4.5.

	Elaboration	Measure for mitigation
Risk 1	New collaboration remains tailor-made, support from all layers within the parties involved is essential for implementing this new collaboration.	<p><u>Measure 1</u></p> <p>Due to our extensive experience in similar collaborations, we can assist Public Housing throughout the entire process. That is a great advantage, but it can also have a negative effect. The two selected partners contribute a lot of knowledge. Public housing is an organization with its own culture and DNA. The implementation of the collaboration will have to reflect this. It often requires a change in behaviour, which makes it</p>

		<p>important to jointly ensure that support is created within all layers of the organization. From the RVC, management, Housing and Finance departments to the project leaders, quality controller and resident consultants.</p> <p><u>Measure 2</u></p> <p>Including the internal organization through periodic presentations in which progress is presented or workshops in which input is collected from involved employees is essential. It is also important for Public Housing to select partners who match the corporate culture and DNA and thus make a positive contribution to the collaboration.</p>
Risk 2	<p>Trying to achieve too much in the start-up phase, causing the employees involved to take on too much work. In the start-up phase we will record the ideal collaboration process.</p>	<p><u>Measure 1</u></p> <p>It is impossible to work according to the ideal collaboration process immediately in the start-up phase. We have experience from previous implementations that a number of processes come together in the start-up year, namely:</p> <ul style="list-style-type: none"> ✓ Execution of the work ✓ Budget of the work for the following year ✓ Effort in working groups, process group, etc. <p>Often many of the same people are involved in the various sub-processes. By establishing a clear organization and meeting structure,</p>

		<p>we plan ahead and have time to carry out actions and activities. See also the answer to Key questions > Process > Key question 1 “How will you organize the process for this form of collaboration?”</p> <p><u>Measure 2</u></p> <p>From the steering group or process group, we jointly determine which goals we want to achieve for the start-up year. We prioritize the objectives and determine where we want to be at the end of the start-up phase.</p>
Risk 3	<p>Public housing will make monuments more sustainable and organize change maintenance through the new form of collaboration “Smarter collaboration”. Making monuments more sustainable requires an integrated approach. There is a risk that the other maintenance processes are still carried out using the traditional method.</p>	<p><u>Measure 1</u></p> <p>We understand that the Public Housing organization needs time to implement the new working method. We have to accept that everything will not go well at once. At the very least, we will ensure the exchange of information between the different types of maintenance so that we are aware of each other’s activities and implementation times.</p> <p><u>Measure 2</u></p> <p>We work together in the start-up phase on frameworks and principles to arrive at an integrated sustainable maintenance and investment budget.</p>

Risk 4	Unnecessarily a lot of investment up front due to high ambitions. Innovation is good, but wanting too much is not. Innovation should not overtake an organization. That is why we invest step by step and look critically at what an innovation brings to us and our partners, so that we make conscious choices.	No measures have been identified for this risk.
Risk 5	Tenant loses contact with De Goede Woning. Nijhuis-Wolters takes over an important part of the tenant communication and therefore functions as an extension of De Goede Woning. By jointly setting up a communication plan and paying attention to the recognisability of De Goede Woning, we carefully inform the tenant. From the maintenance process we determine who sends which communication and when.	No measures have been identified for this risk.
Risk 6	The measures surrounding Covid-19 will have an impact on the soft side of the collaboration. During the start-up phase, there is a risk that measures regarding Covid-19 will be in force. Especially the introduction, creating connection and the soft side of the collaboration in the start-up phase will require creativity from us.	No measures have been identified for this risk.

Figure 4.5: Risks from market requests

4.1.4 “Leidraad ondersteuning opdrachtgevers bij RGS-projecten”

In addition to the “Leidraad Resultaatgericht Samenwerken” with the joint process model, there is a need for guidance specifically for clients with an emphasis on housing associations (Vijverberg, 2015). As a result, the book “Leidraad ondersteuning opdrachtgevers bij RGS-projecten” was written. This book emphasises the **Kraljic model with risk assessment**, see figure 4.6. Using the Kraljic purchasing model, a client can determine for which projects and products RGS is worthwhile and where it is better to opt for a more traditional purchasing form. The Kraljic model assesses purchasing based on two dimensions: the financial importance and the risk for the client (Vijverberg, 2015). The four quadrants are:

1. **Routine products:** Limited financial importance, pursuit of efficiency and optimization of the purchasing process. Maximum competition and process simplification.
2. **Leveraged products:** Clearly defined assignments with significant financial importance. Multiple suppliers possible, competition in the market is utilized through multiple tenders.
3. **Product bottlenecks:** Limited availability on the market, strategic importance. The goal is security of delivery, with a limited number of reliable suppliers.
4. **Strategic products:** High financial stakes and risks. Striving for strategic cooperation, use of market knowledge for complex projects. Tender method based on long-term collaboration for continuous process improvement.



Figure 4.6: Kraljic model by Vijverberg (2015)

The effective management of maintenance and investment categories, such as planned maintenance, major maintenance, and renovation, requires a strategic approach due to their financial importance and the risk of discontinuity when changing contractors. The professionalism of the client plays a crucial role in reducing these risks. Risks vary per project, so small projects will generally carry lower financial risks. Approaching different contractors requires careful coordination to prevent dilution of the common interest and **risk management** (Vijverberg, 2015).

In more **complex projects**, contractors are asked to actively think about the various risks, which can be divided into categories such as money/budget, organization, time/delivery date, information, and quality/desired result. Risks are present in all phases of the process. Risk management within the RGS-method emphasizes the bundling of knowledge in the chain to reduce risks. Managing risks is essential, with contractors drawing up a Risk Assessment Value Added (RAVA) plan for complex projects. A potential pitfall is that the client sets performance requirements too high to eliminate risks, while these can be better managed 'over time' through 'monitors'. This can lead to large financial savings (Vijverberg, 2015).

Traditional working methods often place risks on the client, especially in additional work and unforeseen work. Result-oriented collaboration significantly reduces this risk. The success of communication with customers is of great importance for both customer experience and managing implementation risks. Strategic and bottleneck projects are eligible for result-oriented collaboration due to their financial importance and supply risk (Vijverberg, 2015).

Contractors must actively participate in risk management, they may even take the lead, in order for project risk management to be effective. Risk management has to concentrate on the largest risks, including opportunities as well as threats. The principles of **Best Value Procurement** (BVP) include controlling project risks, recognising the contractor as an expert, and obtaining the best value at the lowest possible cost (Vijverberg, 2015).

A **code of conduct** explicitly addresses competition risks in intensive collaboration in RGS, including control measures, as a valuable addition to the RGS system. This addition is essential for robustness, given the Consumer and Markets Authority’s (ACM in Dutch) critical view of possible disruption of market forces. Both awareness and compliance with this code of conduct are crucial, and it serves to support effective collaboration within RGS, which should also be emphasized in training (Vijverberg, 2015).

4.2 Stakeholder dialogues

In this paragraph the most important outcomes of the stakeholder dialogues (see appendix VI for the whole summaries) will be presented, see figure 4.7. The risks and challenges are not included in this summary because they will be mentioned and assessed in detail later in this study. These summaries will create a basis for what the RGS-method entails and what the respondents’ opinions are about the RGS-method. These summaries provide introductory information before delving deeper into the risks and challenges.

Respondent	Summary of stakeholder dialogue
<p><i>Respondent 1:</i> Employee of Wolters B.V. Project leader</p>	<p>Benefits of RGS-method:</p> <ul style="list-style-type: none"> - Long-term contracts offer security, job stability and continuity. - There is more control over maintenance methods than in the tender market. - Participation from the initiative to the management stages allows for a direct consumer connection.

	<ul style="list-style-type: none"> - Gives the opportunity to provide advice on financially favourable situations. <p>Positive aspects for companies and customers:</p> <ul style="list-style-type: none"> - Stability and control help businesses. - Customers report regular work completion despite market challenges.
<p><i>Respondent 2:</i> Employee of Wolters B.V. Business office manager</p>	<p>Perspective on RGS-method:</p> <ul style="list-style-type: none"> - RGS enables effective collaboration and provides continuity and predictability for the company. - There will be an improved position. A feeling of a more equal seat at the table and collaboration improves yearly through performance agreements. - Chain collaboration and multi-year agreements foster dynamism and allows for mutual growth over time.
<p><i>Respondent 3:</i> Client of Wolters B.V.</p>	<p>Perspective on RGS-method:</p> <ul style="list-style-type: none"> - RGS is considered the right approach for effective collaboration. - Emphasizes the importance of partnership and shared goals. - Offers flexibility in shaping collaboration. <p>Benefits of RGS-method:</p> <ul style="list-style-type: none"> - Guarantees results and goal achievement through smart planning. - Focus on good cooperation with upfront agreements to prevent discussions afterwards. - Long-term perspective appreciated for optimal alignment of quality and price, fostering equality among all parties.
<p><i>Respondent 4:</i> Client of Wolters B.V.</p>	<p>Perspective of RGS:</p> <ul style="list-style-type: none"> - RGS viewed as a valuable tool for goal achievement. - Method's forceful nature seen as beneficial for encouraging natural collaboration. - RGS-method forces cooperation, fostering a positive teamwork environment. - Emphasis on customer's active participation in goal achievement, offering practical expertise.

	<ul style="list-style-type: none"> - RGS provides the opportunity to discuss and gradually remove risks from the project's outset.
<p><i>Respondent 5:</i> Employee of trade association and co-producer of the book "Leidraad Resultaatgericht Samenwerken"</p>	<p>Role of RGS Foundation:</p> <ul style="list-style-type: none"> - The "Resultaatgericht Samenwerken" Foundation is crucial in real estate maintenance and investments. - Published the book "Leidraad Resultaatgericht Samenwerken". <p>RGS-methodology:</p> <ul style="list-style-type: none"> - RGS-method distinguishes itself through result-oriented collaboration. - Companies applying RGS-method receive the VGO quality mark, focusing on both implementation and results. <p>Difference from effort-based collaboration:</p> <ul style="list-style-type: none"> - RGS-method imposes a longer guarantee period, contrasting with the three-year limits in effort-based collaboration. - Responsibility for the result remains with the RGS-method, unlike traditional methods where the product choice lies with the contractor. <p>Responsibilities in results-oriented collaboration:</p> <ul style="list-style-type: none"> - Professionals in RGS are responsible for project execution, plan, product choice, and a longer warranty period. - This approach, while more work, provides greater control and freedom in project development. <p>Opportunities:</p> <ul style="list-style-type: none"> - Results-oriented work offers opportunities for smarter planning and reduced workflow fluctuations. - Long-term agreements in results-oriented collaboration create strong bonds with customers. <p>Knowledge sharing and collaboration:</p> <ul style="list-style-type: none"> - Knowledge sharing is encouraged in RGS-method, but limits exist, especially regarding information that could impact competitive relations. - Horizontal and vertical collaboration is promoted, particularly in chain collaboration. <p>Risk management training:</p> <ul style="list-style-type: none"> - Training on risk management is available about RGS-method.

	<ul style="list-style-type: none"> - Limited interest, offered only once in three years, possibly due to the prerequisite of well-organized business processes.
<p><i>Respondent 6:</i> Co-founder of RGS-method</p>	<p>Paradigm shift to chain collaboration:</p> <ul style="list-style-type: none"> - Emphasis on understanding different business models. - Transition from traditional to chain collaboration for effective results. - Attention to culture, competencies, and a gradual process. <p>Critical Success Factors in RGS process:</p> <ul style="list-style-type: none"> - Four essential factors: demand specification, integer expert advice, measuring and inspection, integrated programming. - Division of factors between property owner's competence and co-makers' honest expert advice. - Central role of integrated programming in recording maintenance, improvements, and sustainability.
<p><i>Respondent 7:</i> Process supervisor of transformation organization</p>	<p>Perspective on RGS-method:</p> <ul style="list-style-type: none"> - The term "RGS" has become a catch-all phrase, often used to describe procedures that deviate from true RGS principles. - Obtaining the full benefits of RGS requires a fundamental shift in thinking and behaviour, which may face resistance due to existing habits and risk aversion. - As a consultancy firm deeply engaged in RGS, they occasionally act as orchestrators, promoting transparency and collaboration.

Figure 4.7: Outcome stakeholder dialogues

4.3 Summary risk assessment

All risks found in the literature and "new" found risks have been tested. The sub-question that will be answered is: *"Which risks and challenges occurred during the use of the RGS-method?"*. Prior to these risks from the literature, the respondents had thought about risks that could arise during the use of the RGS-method. Both these types of risks are assessed by the researcher (see paragraph 2.4 and appendix IV for assessment of literature risks and appendix VII for the assessment of the "new" risks) and the respondents, excluding respondent 5 (see appendix VIII for literature risks and appendix X for the "new" risks). In appendix VIII the sub-question: *"How do stakeholders respond to the risks and challenges proved by the literature?"* will be answered.

4.3.1 Risks prioritised based on own risk assessment and data

In this paragraph both risks found in literature as well as the “new risks” mentioned by respondents are assessed by the researcher. Both these risks are put in the risk control matrix, see figure 2.6 in paragraph 2.4 and figure 7.2 in appendix VII.

There are not only 3 risks that emerge, so we look at the 2 boxes that have the largest priority. The five risks found in literature with the most priority are risk number 31, 5, 10, 12 and 32. The nine “new risks” mentioned by the respondents with the most priority are risk number 9, 29, 2, 4, 22, 24, 10, 13, and 19.

4.3.2 Risks prioritised based on respondent's risk assessment and data

During a conversation with my supervisor from Wolters B.V., we came to the conclusion that the risk assessment of respondents is more valuable than my own risk assessment (4.3.1). This is because the respondents have been working with this method for years and therefore have practical experience and are thus experts in this field (see appendix VIII). I do not have this experience, which means that the results of the respondents are from greater value.

Appendix IX shows that an average of the most important risks can be made in two ways. In method 1, the risk assessment is looked at per respondent and a top 3 is made. These top 3s of the respondents are compared with each other and a top 4 is created based on the risks that occur multiple times in the 6 top 3s. After this, we look at where these risks rank in each top 3 and thus the risks are prioritized. See the elaboration of method 1 below. This concerns the risks found in the literature. Based on the above information, the order will be as follows: in place 1 there are risks 6 and 14, and in place 2 there are risk 5 and 23.

Appendix XI show the risk assessment of the “new” risks. Risk 8 and 25 have emerged here.

Method 2 show the high risk/low risk table. In this method a number is attached to all risk indexes, neglectable = 1, low = 2, medium = 3, and high = 4. The people who consider a risk from the literature as non-risk are not labelled and therefore 0 (because no risk). After all risk indexes have been numbered, all risk indexes are added together and divided by the number of respondents, namely 6. From 0 to 0.9 is neglectable, 1.0 to 1.9 is low, 2.0 to 2.9 is medium and 3.0 or higher is high. See the elaboration of method 2 in appendix IX. The risk with the highest priority according to method 2 is risk 6, 20, 4, and 28 (in this order of highest priority). The risks with the yellow boxes before its number are the risks that emerged from method 1. It can be seen that risk 6 emerges as very important in both methods.

In consultation with Wolters B.V., it was decided to use **method 1**. This was chosen because method 1 provides a qualitative and comparative analysis by identifying the top 3 risks for each respondent and then creating an aggregated top 4 based on common occurrences and highlights risks prioritized by their frequency across respondents' top 3 lists. Method 2 offers a quantitative approach by assigning numerical values to risk levels and calculating an average across all respondents and provides a clear numerical indication of the overall risk level based on respondents' assessments. So, method 1 is chosen due to a more nuanced, qualitative understanding of risks, and especially because the individual perspectives are important. A quantitative method is not preferred because this research is mostly qualitative.

4.3.3 Conclusion of risks with highest priority

In this paragraph the following sub-question will be answered: "According to the case company, what risks and challenges must be prioritized for impact?" All risks, including those found in the literature, discussed in the stakeholder dialogues are prioritized by the respondent (see appendix VIII). Below are the risks mentioned by several respondents, indicating that they have a higher priority within the topic of results-oriented collaboration. These risks below have also been listed in order of highest priority due to method 1 (see paragraph 4.3.2 and appendix IX).

- **Organizational misalignment (6)**: mentioned by respondents 1 and 2;
- **Complex environment (14)**: mentioned by respondents 4 and 6;
- **Ineffective project governance (5)**: mentioned by respondents 1 and 2;
- **Other stakeholders' lack of capabilities to perform (23)**: mentioned by respondents 1, 2, and 4.

The repeated mention of these risks emphasizes their importance and highlights areas where specific attention may be needed to ensure successful results-oriented collaboration.

These risks above are risks that arise from the literature research. The respondents also identified risks themselves. These "new" risk are tested by 3 respondents. The risks contained herein have also been prioritized (see appendix XI) and the following 2 risks with the highest priority have emerged:

- **Lack of organizational support (8)**: mentioned by respondent 4 and 7;
- **Legal risks in governance (25)**: mentioned by respondents 2 and 7.

Now that all the results of the respondents have been processed, a consultation with Wolters B.V. can be held to determine for which risk they would prefer to have a risk mitigation strategy.

4.4 Risk mitigation

In this paragraph the most important risks (agreed by Wolters B.V.) are discussed to which a risk mitigation strategy will be recommended. This is done on the basis the risk assessment of the respondents (see paragraph 4.3.2.). We discuss that the respondents are greater experts than I am, this is why we agreed to use the risk assessment of the respondents only and omit my own risk assessment. A risk mitigation strategy is being developed in this paragraph for these risks with the highest priority. The first 4 risks are risks that are found in literature, risk 5 and 6 are risks that emerged during the stakeholder dialogues and are tested by 3 of the respondents (see appendix X).

First, risk mitigation strategies are developed with help of Wolters B.V. (contractor), later this will be tested by a client and a consultant. This way a broad overview of mitigation strategies are developed. If there is no addition of the consultant or the client, they agree with what is already stated.

4.4.1 Risk 1: *Organizational misalignment (6)*

This is a risk found in literature. This risk refers to a lack of coordination and cooperation within several chain collaborations, which can result in conflict, misunderstanding, and suboptimal performance. Below are the risk mitigation strategies that can be used for minimizing this risk:

- Careful implementation of chain collaboration to ensure coordination.
- Involve all relevant departments of the client, including finance, control and social domain.
- Involve all organizational levels, from management to operational levels, in the process.
- An extra important aspect to reduce this risk is to invest in the 'soft' side of collaboration, improve personal relationships between stakeholders for better understanding and more trust.
- Make cooperation agreements to cover the human aspects and promote transparency.

Addition from consultant:

- When implementing collaboration from the advisory side, it is encouraged to take an approach that always includes a certain degree of customization. This means that coordination takes place with the parties involved and that there is an adoptive

response to their preferences, whereby the willingness to adapt to the parties involved is paramount, rather than strictly adhering to rigid principles. This also implies accepting sub-optimization instead of consciously seeking risks.

Addition from client:

- The respondent stated that the following could be added to the first mitigation strategy: Staff competencies need to be matched to the particular result areas of a project or collaboration. At tactical level, these competencies must be translated to operational level, where it is essential to have the right employees with the necessary competencies.
- An addition from this respondent to point 3 emphasizes the importance of obtaining involvement at management level to prevent discussions at tactical level. General agreements about cooperation are made at management level, while specific project-related agreements are established at tactical level.

4.4.2 Risk 2: Complex environment (14)

This is a risk found in literature. This risk emerges in an environment characterised by various and complicated factors, such as technical complexity, regulations, and uncertainty, as well as the involvement of many stakeholders, which complicates project implementation.

Below are the risk mitigation strategies that can be used for minimizing this risk:

- Reduce/control the risk of complex environments through long-term cooperation in chains.
- Achieve continuity and investment opportunities by implementing project-independent agreements. So, you apply a standard template to all projects, i.e. project-transcending. This gives the partners a better idea of where they stand.
- Implement a collaborative process with clear phases, responsibilities and hard deadlines with go and no-go moments, thus the decision-making processes. This way people know where they stand.
- Ensure continuity and performance agreements that apply throughout the entire chain. Communicate continuity from the contractor to the implementing partners.

Addition from consultant:

- Regarding the first mitigation strategy of this risk, the respondent points out that continuity and degree of changeability are directly impacted by the agreements in the contract and framework agreement, which determine the risk. According to this respondent, continuity is guaranteed if this mitigation strategy is followed.

4.4.3 Risk 3: Ineffective project governance (5)

This is a risk found in literature. This risk indicates poor project direction and management, where decision-making processes, responsibilities and control mechanisms are not effectively set up, which can lead to confusion, delays and sub-optimal results. Below are the risk mitigation strategies that can be used for minimizing this risk:

- Can be reduced by engaging an independent consultant to supervise the implementation of the collaboration.
- Draw up a development agenda in which you work on essential aspects for the collaboration, such as a quality plan, communication plan and process diagram, with a clear prioritization of which plan should be tackled first. This prioritization can be determined by a consulting firm or top managers.

Addition from consultant:

- Having a good information provision, including dashboards with clearly stated results and measurable performance compared to the set standards, functions as an effective management mechanism. This creates the opportunity to actively manage the current situation through a monitoring framework, where results are measured and compared with expectations or standards.

Addition from client:

- Drawing up a risk file is a mitigation strategy that can be used to reduce this risk.

4.4.4 Risk 4: Other stakeholders' lack of capabilities to perform (23)

This is a risk found in literature. This risk emerges when stakeholders lack the essential capacities to carry out their project-related activities and obligations, compromising the overall efficacy of the cooperation. Below are the risk mitigation strategies that can be used for minimizing this risk:

- Guarantee continuity by making agreements about available capacity, resources, quality, price, knowledge input and advice.
- Implement an effective collaborative process to determine which stakeholders should be involved and when.
- Follow laws and regulations, including the Nature Conservation Act, to guarantee timely delivery of documents and appropriate measures.
- Increase capacity by hiring additional manpower, such as employees or consultancies, to meet deadlines and mitigate risks.

- Consider involving multiple chain partners instead of just one or two, for example by choosing two roofers rather than one roofer.

Addition from consultant:

- According to this respondent, the fourth mitigation strategy is not just about increasing additional manpower, but also about an employee's knowledge of the field.
- Ongoing training is important. This way stakeholders will keep up to date with the trends and developments of the RGS-method. Regular training, participation of courses and interventions are crucial. This is important for both existing stakeholders and for "new" stakeholders such as new employees.

Addition from client:

- This respondent indicates that in addition to the second risk mitigation strategy should be added that the previously drawn up risk file must be elaborated here.

4.4.5 Risk 5: Lack of organizational support (8 in "new" risks)

This is a "new" risk that emerged during the stakeholder dialogues. This risk arises when there is insufficient commitment and support within the organization for the implementation of the RGS-method, which can hinder successful integration. Below are the risk mitigation strategies that can be used for minimizing this risk:

- To integrate every new employee into the RGS system, the organization can conduct presentations or courses, allowing them to shadow existing staff members during the onboarding process.
- Providing recurring training sessions for existing employees is essential, considering the continuous development of the RGS methodology, ensuring that the workforce remains well-versed and up-to-date.
- Collaborating with other real estate maintenance companies offers an opportunity to acquire additional knowledge while working for a common client. By observing and learning from each other, organizations can adopt and apply tools and resources developed by partner companies to enhance their own RGS implementation.
- Embracing the RGS methodology as an integral part of the organizational structure is crucial. For instance, departments like the plan development section should be designed to align with the RGS principles. This ensures that internal business processes harmonize with the RGS-method, providing employees with the necessary knowledge and skills.

Addition from consultant:

- For both property owners and maintenance partners, adopting the strategy is perceived as a spearhead that fits within the overall framework. The creation of a strategic goal forces the management and supervisory boards to become active and dedicated, as it communicates the corporation's or maintenance parties' intention to collaborate in this way.
- By looking at the last mitigation strategy, the respondent adds that not only is embracing the RGS methodology as an integral part of the organizational structure crucial, but also organizational strategy.

Addition from client:

- An addition to the last point on the consultant side is that RGS is the means to achieve your goal and the goal must be integrated chain collaboration.

4.4.6 Risk 6: Legal risks in governance (25 in "new" risks)

This is a "new" risk that emerged during the stakeholder dialogues. Legal problems arise concerning corporate governance, as corporations straddle the line between government and private entities, potentially clashing with laws and procurement strategies. Below are the risk mitigation strategies that can be used for minimizing this risk:

- If it is no longer possible to continue RGS collaborations due to new European legislation, an assignment can be dissolved. If you include a clause in the contract that gives the client the right to terminate when regulations require it, you as a contractor run the risk of being left unprotected.
- Engaging in advocacy efforts, industry organizations like OnderhoudNL can lobby to resist or shape legislation in a way that allows housing corporations to operate based on RGS principles. This proactive approach helps safeguard the interests of contractors.
- Legal frameworks within contracts should be strategically designed to align with potential European legislation. This proactive legal structuring provides flexibility and adaptability to potential changes, minimizing the impact of evolving regulations on the contractual relationships.

Addition from consultant:

- An addition to the first point: Include a clause in the agreement that the parties will try to identify an alternative that is similar to the initial cooperative arrangement in the

event that new European legislation are implemented. By considering options that comply to the new regulations and adapting the contract and agreements accordingly, collaboration can continue even if procurement requirements are enforced.

4.5 Difference between contractor, client, and consultant

A question from Wolters B.V. was whether there were differences between the client, contractor and the advisor when looking at the risk priority. As a result, the averages of these 3 categories were compared with each other, see figure 4.8. See appendix XII for the elaboration of this figure.

Risk number		Difference		
		Cont-Cl	Cont-Cons	Cl-Cons
6	s	1	2	1
	p	1	1	0
14	s	0,5	-1	-1,5
	p	1	-0,5	-1,5
5	s	2	1	-1
	p	1,5	-0,5	-2
23	s	0	-1,5	-1,5
	p	0	-1	-1
8	s	0	0	0
	p	-1	0	1
25	s	-1	2	3
	p	0	1	0

Cont = Contractor
Cl = Client
Cons = Consultant

Figure 4.8: Difference in risk assessment between contractor, client, and consultant

The categories with a difference larger than 2 or -2 (see red boxes) are examined. This was chosen because there will be a focus on larger and possibly more significant differences. A threshold of 2 is more sensitive to changes that are considered more meaningful or practically relevant in this case. It helps filtering small variations that may be less relevant. Any data set can have some level of fluctuation or noise. Setting a higher threshold reduces the chance of discovering differences that are caused by random fluctuations rather than meaningful distinctions. Furthermore, a threshold of 2 indicates that this study is interested in variations that have a greater impact. This aligns with the idea that there is a focus on distinctions that are practically relevant.

Choosing to look at, for example, differences of 1 or -1 on a scale of 1 to 5, will most likely result in identifying smaller differences. In this context, looking at 1 or -1 on a scale of 1 to 5 can be deemed rather small and may not represent a significant shift in perception or assessment.

Summarising, it can be seen that the biggest differences are between:

- The severity of risk 5 between contractor and client, namely 2;
- The severity of risk 6 between contractor and consultant, namely 2;

- The severity of risk 25 between contractor and consultant, namely 2;
- The probability of risk 5 between client and consultant, namely -2;
- The severity of risk 25 between client and consultant, namely 3.

4.6 Risk control matrix of prioritized risks

In this paragraph the risk control matrix is filled in with all the “most important risks”. This matrix is filled in based on paragraph 4.3.3 and appendix IX and XI.

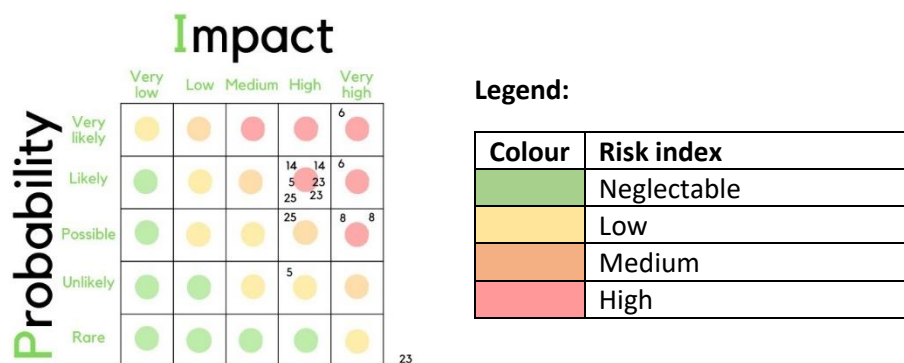


Figure 4.9: Risk control matrix of prioritized risks from respondents

As shown in figure 4.9, risk 5 is not placed very high in this table. This also applies to risk 23 where a respondent did not see this risk as a risk at all. Unfortunately, this is a human error made while processing the results. Mitigation strategies have been developed for these risks because this error was found after these strategies had already been discussed and tested. However, the analysis is newly carried out and it is examined what the correct top 4 (already prioritized) of literature risks are according to the respondents (see appendix XIII):

- **Organizational misalignment (6)**: mentioned by respondents 1, 2, and 6;
- **Complex environment (14)**: mentioned by respondents 4 and 6;
- **Ineffective project governance (23)**: mentioned by respondents 1 and 4;
- **Other stakeholders’ lack of capabilities to perform (31)**: mentioned by respondents 3 and 4.

If we compare this top 4 with the top in section 4.3.3. it can be seen that risk 6 is now clearly in position one, risk 14 is unchanged in position two, risk 23 has moved to position three, risk 5 has been removed from the list and risk 31 has been added to a shared third place. Again, a risk control matrix will be developed with the new top 4 and the “new” risks from paragraph 4.3.3., see figure 4.10.

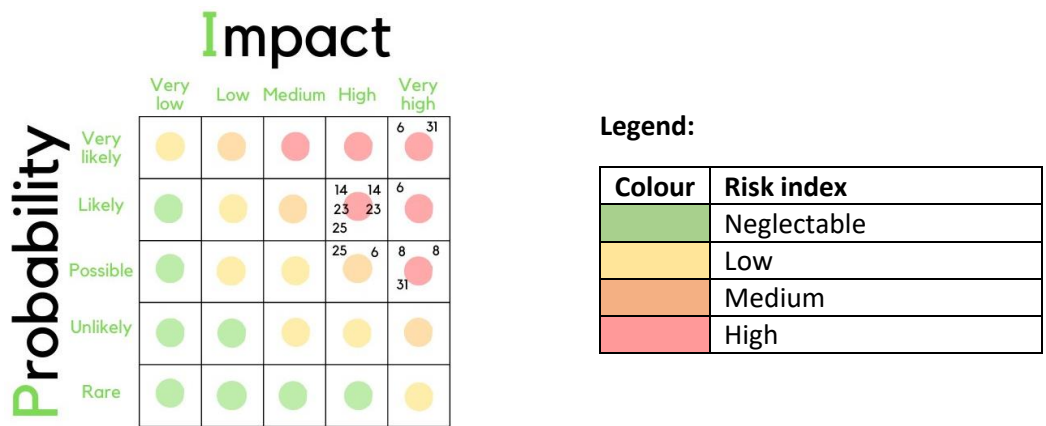


Figure 4.10: Risk control matrix of prioritized risks from respondents (without error)

Unfortunately, there is not enough time to develop a mitigation strategy for risk 31. This something that can be done in future research (see paragraph 5.3). In general, this chapter showed the prioritization of the most “important” risks and its mitigation strategies. The next chapter will provide a brief conclusion and a discussion of the overall research.

5. Discussion and conclusion

In this chapter, key findings are presented of the overall research. Additionally, the study's limitations are discussed, providing a clear picture of the constraints. Lastly, the chapter finishes with recommendations for future study areas and practical implications based on the research findings.

5.1 Key findings

The goal of this research was to **identify the potential risks and challenges** associated with the use of the RGS-method in the real estate maintenance industry and to develop strategies that can help Wolters B.V. **mitigate these risks** and ensure a smooth transition towards a service-oriented business model.

A **literature search** was first conducted where 36 risks have already emerged in models similar to those of the RGS-method. The search was for a model that can be used to prioritize all risks found, the risk control matrix. Here the risks are placed in the model based on the severity and its probability. When the literature review has been completed, the field research has started with **Wolters B.V. as a single case company**. Several **document analyses** were carried out and **stakeholder dialogues** were held. When all “new risks” have been identified and risks from the literature have been tested, they can be sorted based on priority. Based on this, a mitigation strategy is developed for the 6 risks with the highest priority with the help of an expert from Wolters B.V.

One result of this research is that I expected to find different risks in different phases of the RGS-method. However, respondents indicated that there are more overarching risks that are present in all or more phases of the RGS-method. As a result, I have omitted to classify the risks per phase.

Another important finding is that there are not necessarily completely different risks on the client, contractor, or consultant side. This is partly because the respondents linked the risks to the overall process of the RGS-method and did not necessarily look specifically at their own perspective.

This study makes **several contributions to the field of risk management in real estate maintenance**. Firstly, it expands existing knowledge on identified risks by confirming four risks from the literature. Additionally, two newly discovered risks that emerged during stakeholder dialogues enrich the understanding of potential risks challenges in the field. These contributions are grounded in and build upon the foundational works of Schulte et al.

(2008), (Chang & Lue (2008), Nudurupati et al. (2016), Hou & Neely (2017), and Josephson et al. (2015), providing a nuanced perspective on risks and challenges in the context of the RGS-method.

After processing the results, 6 risks with the highest priority emerge, risk 6 (risk found in literature), risk 14 (risk found in literature), risk 5 (risk found in literature), risk 23 (risk found in literature), risk 8 ("new risk") and risk 25 ("new risk"). Mitigation strategies have been developed for these 6 risks.

The findings reveal crucial insights into risk management strategies associated with the implementation of the RGS-method in real estate maintenance. Addressing **organizational misalignment (risk 6)**, recommendations include careful implementation of chain collaboration, involvement of all organizational levels, a focus on improving interpersonal relationships, promoting transparency, always include a certain degree of customization, staff competencies alignment with project areas, and involvement at management level to prevent tactical-level discussions. **Complex environment (risk 14)** mitigation involves long-term cooperation, project-independent agreements, a clear collaborative process, and ensure continuity and performance agreements. **Ineffective project governance (risk 5)** is countered by engaging independent consultants, prioritizing essential aspects, having a good information provision, and drawing up a risk file. To mitigate **other stakeholders' lack of capabilities (risk 23)**, agreements on capacity, effective collaboration processes, adherence to laws are essential, increase capacity by hiring additional manpower and the knowledge of the employees, involve multiple chain partners, ongoing training, and the risk file must be elaborated. **Lack of organizational support (risk 8)** is addressed through integration strategies for new employees, recurring training sessions, collaboration with other maintenance companies, organizational alignment with RGS principles, and the creation of a strategic goal. **Legal risks in governance (risk 25)** mitigation involves contract clauses allowing termination due to new legislation, advocacy efforts, and strategic legal framework design. These comprehensive risk management measures ensure a smooth transition towards a service-oriented business model in the real estate maintenance industry, fostering effective collaboration and minimizing potential challenges.

While making the end risk control matrix, a human error is occurred in processing the results. In order to correct it, a revised analysis was made. The corrected top 4 literature risks, per respondents, include organizational misalignment (6), complex environment (14), ineffective project governance (23), and other stakeholders' lack of capabilities to perform (31). Unfortunately, due to a lack of time, no mitigation strategy has been developed for risk 31.

5.2 Practical implications

The practical implications of this study extend beyond its immediate focus on Wolters B.V. and hold relevance for any company wanting to adopt the RGS-method or already engaged in the adoption of the RGS-method. The findings underscore the importance of a strategic approach that leverages the inherent risks and challenges associated with transitioning towards a service-oriented business model.

By delving into the practical implications and suggesting specific risk mitigation strategies, this research provides a roadmap for companies in the real estate maintenance industry looking to embrace the RGS-method. This study emphasizes the need for a holistic and well-informed approach that considers not only the opportunities but also the risks and challenges associated with this method.

Organizations should take a proactive approach to risk mapping, not only relying on existing literature but also considering their own specific contextual risks. It may therefore inspire organisations to add an additional step to their risk analysis process, focused on detecting risks and challenges that are specific to their use of the RGS-method. Such a strategy adds to a more holistic approach to risk management, allowing organisations to be better prepared for any operational issues.

5.3 Limitations

Several limitations have been encountered while conducting this research. These are mentioned below.

A limitation of this research lies in the **selection of discussion partners** for the stakeholder dialogues. This was found during 'smart talk' with multiple employees of Wolters B.V. and during a stakeholder dialogue with one of the respondents. The people I interviewed have reasonable or great 'fame' in the RGS world. The choice to have conversations with people who are frequently approached for their expertise in results-oriented collaboration (RGS) may have led to limited diversity in perspectives and somewhat fewer risks. The respondents who were consulted have built up significant experience and expertise in the RGS-method and have shared largely positive experiences and views on this approach. This can result in a bias toward consistent, positive outcomes in the data collected. A possible consequence is that certain nuances, criticisms, or alternative perspectives that are less common within the RGS community may remain underexposed. To increase the representativeness and

diversity of the results, it might have been useful to also collect opinions from respondents with less positive experiences with the RGS-method and a stakeholder with less 'fame' in the RGS world. A broader sample could have provided a more balanced picture, including possible criticisms or challenges that are less often highlighted by those heavily involved in RGS.

Another limitation of this study was discovered during the interview with respondent 5. This was the first time a stakeholder conversation took place. This respondent was **extremely positive about the RGS** approach and acknowledged few risks and challenges. As a result, too few risks came up, and I was concerned that this could happen to the following respondents. This could end up in a misleading picture if the results are too much influenced by overly optimistic viewpoints. To overcome this obstacle and give a more balanced overview, I decided to go over the list of risks from the literature with the other six respondents. This was done in order to get a broader view of possible risks and challenges and that the evaluation was not affected too much by these really positive responses. The literature provides an objective frame of reference that has enriched the dialogues and increased the depth of understanding of possible risks and challenges in the context of RGS.

The third limitation that emerged in this research is that the **word document that I had emailed to the respondents was not very pleasant to complete**, so I should have made an Excel document so that it would be easier for the respondents to complete it. The result of this may be that respondents have rushed completing the table. This can have consequences of the reliability. Reliability refers to the consistency and stability of measurements over repeated trials. If respondents answer in a hurry, it can reduce the reliability of the data because the answers are not consistent or do not accurately reflect what the respondent really thinks or feels.

Another limitation of this study is to the **omission of risks** identified in the literature, specifically risks 18 and 19, during the stakeholder dialogues. Both I, as the researcher, and the respondents encountered challenges in comprehending the definition of these risks. In hindsight, a more thorough investigation into these risks would have been beneficial, because it can mean that the exclusion of these risks overlooked potentially significant risks. Future research could benefit from a more nuanced exploration of these specific risks to enhance the overall understanding of potential challenges associated with the RGS-method.

While making the end risk control matrix, a **human error** is identified in processing the results. Then, a revised analysis was made. In the revised analysis, it was identified that there was

an error in the prioritization of risks for respondent 2. At the top 4 of all risks that are prioritized are risk 5 and risk 23 not accurately placed in the initial table. Despite this, mitigation strategies had been developed and tested for these risks. The corrected top 4 literature risks, per respondents, include Organizational misalignment (6), Complex environment (14), Ineffective project governance (23), and Other stakeholders' lack of capabilities to perform (31). This revised order indicates changes from the original ranking, emphasizing the importance of accurate risk prioritization for effective risk management. For future research it is good to take a look at the mitigation strategy for risk 31.

The last limitation is that this research used **document analysis as a tool to identify risks**. All the documents that I have received do not clearly identify and explain risks of the RGS-method. As a result, it served more as a basis of additional knowledge about the RGS-method. It is possible that risks are not identified in documents because this is often a formal document in which they prefer not to state (mostly seen as “negative”) risks in black and white.

5.4 Future research

Future research in this domain could benefit from **extending the scope** to include a broader range of companies within the real estate maintenance industry. While this study focused on Wolters B.V. as a representative case, exploring additional companies could unveil a more comprehensive spectrum of risks and challenges associated with the adoption of the RGS-method. Unfortunately, due to time constraints, a more extensive examination of multiple companies was not feasible in this study. Future research should aim to overcome this limitation by conducting a comparative analysis across various organizations, allowing for a more nuanced understanding of the potential risks and challenges in different contexts.

As mentioned before a limitation of this research lies in the selection of discussion partners for the stakeholder dialogues. Future research should entail a **broader sample** (for example people who chose not to work with the RGS-method. This research only entails people who like to work with the RGS-method) that will provide a more balanced picture.

As mentioned in paragraph 5.2 future research could benefit from a **more nuanced exploration of risks 18 and 19** to enhance the overall understanding of potential challenges associated with the RGS-method.

Due to a human error, there is not a risk mitigation strategy for risk 31, because this is a new risk added to the list after revision. Future research can **include a strategy for risk 31** so that this risk can be mitigated.

Also, future research could **test all the risks again** within the same respondents. In this way, validity of risk priority and impact is tested. Additionally, also test these risks with new respondents/ stakeholders to obtain greater reliability of the results also for other context outside the construction industry.

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APPENDICES

THESES

BY
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Appendices

Appendix I – Literature links

Search engine	Keywords put in search engine*	Links	# Hits
Scopus	result-oriented AND collaboration	https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=RGS+method&sid=4c6cdb471b686bec1ae4cecec2bd5f43&sot=b&sdt=b&sl=25&s=TITLE-ABS-KEY%28result-oriented+AND+collaboration%29&origin=searchbasic&editSaveSearch=&featureToggles=FEATURE_DOCUMENT_RESULT_MIC3RO_UI%3A1&sessionSearchId=4c6cdb471b686bec1ae4cecec2bd5f43&limit=10	45
Scopus	risk* AND (service AND oriented AND business AND model)	https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=risk*+AND+%28service+AND+oriented+AND+business+AND+model%29&sid=cad65c2dcc9ff4f9e899d3b975c5000c&sot=b&sdt=b&sl=70&s=TITLE-ABS-KEY%28risk*+AND+%28service+AND+oriented+AND+business+AND+model%29%29&origin=searchbasic&editSaveSearch=&yearFrom=Before+1960&yearTo=Present	374
Scopus	service-oriented AND collaboration AND risk*	https://www.scopus.com/results/results.uri?sort=plf-f&src=s&st1=service-oriented+AND+collaboration+AND+risk*&sid=e047049d2d6e170b900302f2df845436&sot=b&sdt=b&sl=59&s=TITLE-ABS-KEY%28service-oriented+AND+collaboration+AND+risk*%29&origin=searchbasic&editSaveSearch=&yearFrom=Before+1960&yearTo=Present	66
Web of Science	result-oriented AND collaboration	https://www.webofscience.com/wos/woscc/summary/3c7d99bb-d0ef-4c8f-8d09-7c3206a35754-8a34edd3/relevance/1	31
Web of Science	risk* AND (service AND oriented AND business AND model)	https://www.webofscience.com/wos/woscc/summary/7a1cae36-b268-427d-94d3-f4269bbd49be-907f9ef1/relevance/1	201
Web of Science	service-oriented AND collaboration AND risk*	https://www.webofscience.com/wos/woscc/summary/0f02c0e7-3c7b-456f-8713-41379d1b79e4-907fcc71/relevance/1	31

Figure 1: Search engine and links

*Several possible searches will be entered, but these are the starting searches.

Appendix II – Relevant papers

Characteristics of every article used in chapter 2:

Author(s), year of publication	Topic	Target country of study	Study method	Research objective(s)
(Schulte et al., 2008)	Potential risks and benefits of Service-oriented Collaboration - basic considerations and results from an empirical study	Germany	“We evaluate our assumptions with results from a survey we conducted in the German banking industry. Using data from 52 banks.”	“In this paper, we present basic considerations about the impact of Service-oriented Collaboration on organizations.”
(Chang & Lue, 2008)	An Exploratory Study of Risk Factors for Implementing Service-Oriented IS Projects	Unknown	Literature review	“This research aimed at identifying risk factors related to service-oriented IS projects and analysing the impact of these risk factors.”
(Nudurupati et al., 2016)	Eight challenges of servitisation for the configuration, measurement and management of organisations	UK	Systematic literature review	“The purpose of this paper is to conduct a structured literature review to explore, identify and synthesise the multi-disciplinary research challenges in the journey towards servitisation.”
(Hou & Neely, 2017)	Investigating risks of outcome-based service		“To address this gap in the literature, we conducted 24	“Whilst many authors acknowledge the importance of understanding risks in OBCs from a provider’s perspective,

	contracts from a provider's perspective		interviews with 11 companies."	there are relatively few in depth extant studies."
(Josephson et al., 2015)	Service Transition Strategies in Manufacturing: Implications for Firm Risk	Unknown	"The authors analyse a unique data set of 168 publicly traded manufacturing firms over a 6-year financial window."	"This article investigates the impact of service transition (the infusion of services in addition to goods to a manufacturing firm's offering) on firm-idiosyncratic risk."

Figure 2: Demographics per article

Link of every article used in chapter 2:

Topic	Link
Potential risks and benefits of Service-oriented Collaboration - basic considerations and results from an empirical study	https://ieeexplore.ieee.org/document/4635153
An Exploratory Study of Risk Factors for Implementing Service-Oriented IS Projects	https://link.springer.com/chapter/10.1007/978-3-642-01256-3_8
Eight challenges of servitisation for the configuration, measurement and management of organisations	https://www.emerald.com/insight/content/doi/10.1108/JST-P-02-2015-0045/full/html
Investigating risks of outcome-based service contracts from a provider's perspective	https://www.tandfonline.com/doi/full/10.1080/00207543.2017.1319089
Service Transition Strategies in Manufacturing: Implications for Firm Risk	https://journals.sagepub.com/doi/10.1177/1094670515600422

Figure 3: Link per article

Appendix III – Elaboration of chapter 2 theory, paragraph 2.2

Paper of Schulte et al.:

The paper of Schulte et al. says that there are three potential risks involved in implementing a service-oriented business model. First risk is **loss of autonomy**. This can result from different causes. A possible reason is the loss of in-house skills due to outsourcing. So, this risk can occur if an organization relies too much on another organizations.

The second risk is **profile loss** with reference to the customers. This risk arises when customers are unable to identify the manufacturer of a purchased product or service. It is relevant for both physical products and service offerings like bank loans and becomes particularly concerning for companies that rely heavily on loyal customers.

The third risk is **easier exchangeability of products**, stemming from increasing specialization. This emphasizes how easily potential customers can switch between products from different providers, particularly when those products are standardized and specialized (Schulte et al., 2008).

Paper of Chang & Lue:

Insufficient technology planning: The study found that insufficient technology planning was the most influential risk factor in the adoption of service-oriented systems. This is because integrating these systems with existing business processes and technologies requires significant effort and can be more complex and costly compared to traditional systems. Therefore, a well-designed adoption plan is crucial for successful implementation of service-oriented systems.

Lack of expertise: The study highlights that developing expertise in technologies like J2EE, .NET platform, WSDL, XML, and SOAP can be costly, and finding qualified professionals with these skills can be challenging. Even when outsourcing to software vendors, it is important to evaluate their knowledge and capabilities in service-oriented technology.

Ineffective project governance: Managing a service-oriented system project is more difficult than traditional projects due to the newness and scale of the concept and technology. Support from top managers and key users is crucial, and proper governance and communication structures are essential for success.

Organizational misalignment: Organizational alignment is important for the success of service-oriented systems. It involves making sure that processes, workforce, strategies, and technologies all move in the same direction. This may require restructuring the company, organizing business processes, and coordinating different service groups. If everyone is not aligned, it can be difficult to meet customer needs and gather market information, making it harder to adopt service-oriented systems successfully (Chang & Lue, 2008).

Paper of Nudurupati et al.:

One of the main conclusions from the existing research on servitisation is that it has three important weaknesses. First, a lot of research **have little practical use and are conceptual in character**. These studies may provide valuable insights and conceptual understanding, but their findings may not directly translate into actionable recommendations or solutions for practical implementation.

Second, there **aren't many empirical studies**, and when there are, the results are frequently based on a single case study and the insights of a small group of senior managers. In this regard, the study that is currently available is based on a limited set of data and perspectives, which may limit its ability to be generalized and fully understood.

Third, because data is typically gathered after an event in these organizations, the **dynamics often aren't fully investigated**. Due to the fact that the data mostly reflects past events rather than capturing current processes and implications, this method may limit the ability to understand the real-time dynamics and complexity of the companies that are adopting servitisation. (Nudurupati et al., 2016).

Paper of Hou & Neely.:

According to the case studies, commercial risk, which pertains to contract discussions and decision-making at the contracting stage, and operational risk, which pertains to OBC implementation and delivery, are the two main risk categories in OBCs. This study identified 23 risk (see figure 2.1) variables that can result in **commercial risk** and **operational risk** in five dimensions: (i) complexity and (ii) dynamism with regard to the context of OBCs, (iii) capability, (iv) alignment, and (v) dependency with regard to the stakeholders of OBCs. The relationship between these risk indicators and operational and commercial risk is examined in the article. See below the risks per dimension:

Complexity: Adopting OBCs (Outcome-Based Contracts) is often done in complex contexts, with various variables and uncertainties. This dimension includes five risk factors: **multiple stakeholders**, **diversified and unclear customer demands**, **complex contracts**, and a **complex environment**. Failing to address and reduce complexity can lead to commercial and operational risks.

Dynamism: OBCs are characterized by their long-term nature and inherent dynamism. This dimension encompasses three risk factors: **dynamic customer demands**, **a dynamic environment**, and **long-term contracts**. The dynamic nature of OBCs can contribute to both commercial and operational risks.

Capability: The lack of capabilities among key stakeholders (providers, customers, partners, etc.) is a significant driver of commercial and operational risks. This dimension includes six risk factors: **providers' capability to contract and deliver OBCs**, **internal consistency and resistance within providers**, **customers' capability to consume and fulfil their roles**, and **other stakeholders' capability to perform**.

Alignment: The alignment between providers and customers is crucial to mitigate commercial and operational risks. Achieving alignment involves six aspects: **goals**, **visions**, **practices**, **understandings**, **culture**, and **bargaining power**.

Dependency: This dimension focuses on the extent of **provider dependency on customers and stakeholders for service delivery**, **the provider's control or influence over their performances**, and **the consequences of their failure**. **Upfront investments**, particularly contract-specific ones, can increase the provider's dependency. (Hou & Neely, 2017).

Paper of Josephson et al.,..:

In Josephson et al.'s paper, the shift towards a service-oriented model is associated with four risks.

First, service shift may result in a **loss of strategic focus**, which could increase business risk and cause market scepticism. The departure from a company's traditional goods-based offering and core competencies might put doubt on its ability to compete in the market and generate future income.

Second, service transition **requires substantial resource commitments**, and a lack of resources may indicate vulnerability and reduce a company's capacity to meet customer expectations. Low customer satisfaction, higher customer turnover, and more marketing costs may arise from insufficient resource support, which could cause market mistrust and fluctuating stock returns.

Third, service transition **requires intrafirm cooperation**, but the creation of new coalitions and potential conflicts with existing factions can generate internal strife. Goal incongruity between coalitions can hinder the firm's competitive position and create a negative signal, losing market trust and increasing risk.

Fourth, service transition often involves **capability retooling**, developing new or seldom used capabilities, which can introduce ambiguity and disruption. The time needed to build these skills and the uncertainty of achievement might make the company more open to rivalry, heighten market reluctance and scepticism, and ultimately increase risk levels (Josephson et al., 2015).

Appendix IV – Risk assessment explanation of literature review risks

This assessment is based on historical data and a subjective view. This is because these risks cannot be linked to a specific case. In later research, the risks of the Wolters B.V. will be mapped and based on stakeholders these can be placed in the right category. Below is an assessment of the severity (impact on organizational change) and probability for each risk that is found in literature, along with a brief explanation:

1. Loss of autonomy

- *Severity:* Very high
- *Probability:* Rare
- *Explanation:* Loss of autonomy can have a significant impact on organizational change as it limits decision-making and flexibility, potentially hindering the transition to a service-oriented business model.

2. Easier exchangeability of products

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* While easier exchangeability of products may introduce some challenges, the impact on organizational change may not be as high as other risks. However, it still needs to be addressed to ensure a smooth transition.

3. Insufficient technology planning

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* Insufficient technology planning can greatly impede organizational change, as technology plays a crucial role in enabling a service-oriented business model.

4. Lack of expertise

- *Severity:* High
- *Probability:* Unlikely
- *Explanation:* The lack of expertise can hinder the successful adoption of the RGS-method and the transition to a service-oriented business model, requiring appropriate measures to address skill gaps.

5. Ineffective project governance

- *Severity:* High

- *Probability*: Likely
- *Explanation*: Ineffective project governance can lead to delays, misalignment, and inefficiencies, posing significant challenges to organizational change and the successful implementation of the RGS-method.

6. Organizational misalignment

- *Severity*: Very high
- *Probability*: Unlikely
- *Explanation*: Organizational misalignment can have a severe impact on change efforts, as it creates conflicts, resistance, and hindered coordination among different units, potentially jeopardizing the transition.

7. Have little practical use and are conceptual in character

- *Severity*: Low
- *Probability*: Possible
- *Explanation*: While having little practical use and being conceptual in nature may not directly impede organizational change, it can reduce the effectiveness of implementation strategies and decision-making.

8. Few empirical studies, and the results are often based on a single case study

- *Severity*: Low
- *Probability*: Likely
- *Explanation*: Limited empirical studies and reliance on single case studies can limit the availability of evidence-based insights, potentially affecting the decision-making and risk assessment process.

9. Dynamics often aren't fully investigated

- *Severity*: Medium
- *Probability*: Possible
- *Explanation*: Insufficient investigation of dynamics can lead to a lack of understanding of the complexities and challenges associated with organizational change, requiring a thorough examination to mitigate risks.

10. Involvement of multiple stakeholders

- *Severity*: High
- *Probability*: Likely

- *Explanation:* The involvement of multiple stakeholders can significantly impact organizational change, as it introduces complexities, diverse interests, and potential conflicts that need to be managed effectively.

11. Diversified customer demands

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* Diversified customer demands require organizations to adapt their offerings and processes, posing challenges to the transition towards a service-oriented business model.

12. Unclear customer demands

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Unclear customer demands can impede organizational change by creating uncertainty and difficulties in designing and delivering suitable services.

13. Complex contracts

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* Complex contracts introduce challenges in managing legal obligations, coordination, and accountability, impacting the implementation of the RGS-method and the shift towards a service-oriented business model.

14. Complex environment

- *Severity:* High
- *Probability:* Possible
- *Explanation:* A complex environment can pose significant challenges to organizational change, requiring adaptive strategies and effective management of uncertainties and interdependencies.

15. Dynamic customer demands

- *Severity:* Medium
- *Probability:* Very likely
- *Explanation:* Dynamic customer demands require organizations to be agile and responsive, which can affect the transition towards a service-oriented business model and necessitate continuous adjustments.

16. Dynamic environment

- *Severity:* Medium
- *Probability:* Very likely
- *Explanation:* A dynamic environment presents ongoing changes and uncertainties, which can impact organizational change efforts, requiring adaptability and strategic responses.

17. Long-term contracts

- *Severity:* Medium
- *Probability:* Very likely
- *Explanation:* Long-term contracts can introduce stability but may also limit flexibility and hinder organizational change if they are not aligned with the service-oriented business model.

18. Providers' lack of capabilities to contract OBC

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* Providers lacking capabilities to contract outcome-based contracts (OBC) can hinder the successful implementation of the RGS-method, requiring skill development and capacity building.

19. Providers' lack of capabilities to deliver OBC

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* Providers' lack of capabilities to deliver OBC can impede the transition to a service-oriented business model, necessitating training and process improvements.

20. Providers' internal inconsistency

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* Internal inconsistency within providers can create inefficiencies and inconsistencies in service delivery, impacting the adoption of the RGS-method and organizational change efforts.

21. Providers' internal resistance

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Providers' internal resistance to change can significantly impede the adoption of the RGS-method and hinder the transition towards a service-oriented business model. It requires effective change management strategies to address resistance and foster engagement.

22. Customers' lack of capabilities to consume the delivery and to play their roles

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Customers' lack of capabilities to consume services and fulfil their roles can hinder the successful implementation of the RGS-method and require customer education or support to ensure their effective participation.

23. Other stakeholders' lack of capabilities to perform

- *Severity:* High
- *Probability:* Possible
- *Explanation:* The lack of capabilities among other stakeholders involved in the transition can impede progress and coordination, affecting the successful implementation of the RGS-method and the achievement of a service-oriented business model.

24. Mismatching in goals between providers and customers

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Goals mismatch between providers and customers can create conflicts and misalignment, impacting the adoption of the RGS-method and the establishment of a service-oriented business model.

25. Mismatching in visions between providers and customers

- *Severity:* Medium
- *Probability:* Likely
- *Explanation:* Visions mismatch between providers and customers can lead to misunderstandings and difficulties in defining and aligning expectations, affecting the transition towards a service-oriented business model.

26. Mismatching in practices between providers and customers

- *Severity*: Medium
- *Probability*: Likely
- *Explanation*: Mismatching practices between providers and customers can lead to inefficiencies and challenges in delivering services, requiring collaboration and process alignment.

27. Mismatching in understandings between providers and customers

- *Severity*: Medium
- *Probability*: Likely
- *Explanation*: Mismatching understandings between providers and customers can lead to miscommunication and dissatisfaction, impacting the successful adoption of the RGS-method and the establishment of a service-oriented business model.

28. Mismatching in culture between providers and customers

- *Severity*: Medium
- *Probability*: Likely
- *Explanation*: Cultural differences between providers and customers can create challenges in collaboration and service delivery, requiring efforts to bridge the cultural gap.

29. Mismatching in bargaining power between providers and customers

- *Severity*: Medium
- *Probability*: Likely
- *Explanation*: Mismatching bargaining power between providers and customers can impact negotiations and agreements, influencing the implementation of the RGS-method and the transition towards a service-oriented business model.

30. Dependency on customers

- *Severity*: Very high
- *Probability*: Possible
- *Explanation*: Dependency on customers for success can introduce risks and vulnerabilities, impacting the organization's ability to implement the RGS-method and transition to a service-oriented business model.

31. Dependency on other stakeholders

- *Severity*: High
- *Probability*: Very likely

- *Explanation:* Dependency on other stakeholders for resources, support, or collaboration can impact the organization's ability to drive change and implement the RGS-method effectively.

32. Upfront investments

- *Severity:* High
- *Probability:* Likely
- *Explanation:* Upfront investments required for the adoption of the RGS-method can pose financial risks and uncertainties, affecting the organization's ability to make necessary investments and commit to the transition.

33. Loss of strategic focus

- *Severity:* High
- *Probability:* Rare
- *Explanation:* Loss of strategic focus during the transition can derail efforts and hinder the successful implementation of the RGS-method and the achievement of a service-oriented business model.

34. Requires substantial resource commitments

- *Severity:* High
- *Probability:* Possible
- *Explanation:* The substantial resource commitments required for the adoption of the RGS-method can strain the organization's capabilities and impact other initiatives, requiring careful resource management and planning.

35. Requires intrafirm cooperation

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* The need for intrafirm cooperation to implement the RGS-method and drive organizational change can pose challenges related to coordination, communication, and overcoming silos.

36. Capability retooling

- *Severity:* Medium
- *Probability:* Possible

- *Explanation:* Capability retooling required for the adoption of the RGS-method can introduce disruptions and uncertainties, impacting the organization's ability to develop and leverage new or seldom-used capabilities.

The severity and probability assessments provided are subjective and may vary depending on the specific context and circumstances of the organization. It is essential to conduct a thorough risk assessment and consult relevant stakeholders to determine the appropriate severity and probability levels for each risk. This is what will be done in later research, see appendix VIII and X.

Appendix V – Subjects for stakeholder dialogues

This appendix contains main questions and topics that are important during the stakeholder dialogue. In these stakeholder dialogues, the aim is to keep the conversation going and ask follow-up questions are important in that specific dialogue. As a result, a few main topics and key questions were formulated and not a whole guide of questions was developed. See the following key questions and subject areas:

- Short introduction of the topic
- Explanation of the goal of this research

- What is your opinion about the RGS-method?
- What risks have you already experienced while working with the RGS-method?
- Are there specific risks in specific phases of the RGS-method?

- I will present some risks from the literature and ask whether the stakeholder recognizes these risks.

- I will show the risk control matrix.
- Of all the risks that have come up now, which risks do you think should be prioritized?

Appendix VI – Stakeholder dialogues summaries

This appendix will include summaries of the stakeholder dialogues with 2 employees of Wolters B.V., two clients of Wolters B.V., two consultants and someone who works at the trade association.

Respondent 1 – Employee of Wolters B.V. (Project leader RGS-method)

The respondent is positive about the RGS methodology and especially emphasizes the stability and continuity that result from long-term contracts, which provides job security. Compared to the tender market, the respondent experiences more control over maintenance measures. Through the RGS process you are involved from the initiative phase to the management phase, where you are in direct conversation with the customer. This offers the opportunity to provide advice on economically beneficial maintenance scenarios and to propose the right measures at the right time.

The respondent emphasizes that it has positive aspects for both companies and customers. Companies benefit from job security and the ability to exercise control over the process. It is also beneficial for customers, as they operate in a tense market and often have to deal with vacancies. Despite these challenges, customers experience that the work is getting done, which further strengthens the attractiveness of the RGS methodology.

Respondent 1, who has been working with the RGS-method for nine years, shares his experiences with the risks he has encountered while working with this method. He emphasizes that the process he follows is consistent annually, with gradual expansion and addition of more documentation. One potential risk he mentions is the ‘force of habit’. Because the current process is effective, there is a tendency to stick to the same way of working, which can hinder the incentive for innovation, especially since he has seen many different situations in his nine years of service.

Respondent 1 identifies the first four phases as the period in which the greatest risks occur. The danger lies in sticking to routine and lack of innovation, which can occur due to the feeling of having seen it all. In the execution phase (phase 5), where the teams work on site, the risk lies in insufficient documentation of what is actually executed. Measuring performance and recording the work carried out becomes crucial, and the question arises as to who carries out these measurements.

In the area of commissioning, respondent 1 identifies financial risks as the biggest concern. Inaccurate execution in the early stages can lead to higher costs in the later stages. Clients strive for budget certainty and must ensure that the money is spent at the right time. Building trust with customers is critical, and breaking promises can be considered a risk because customer churn can occur. Measuring and approving performance is essential, but time can be a limiting factor.

Respondent 2 – Employee of Wolters B.V. (Business office manager)

The opinion of respondent 2 about the RGS-method is positive. It not only offers the opportunity to collaborate effectively, but it also provides the continuity and predictability that our company needs as a client. Respondent 2 mentions that it feels like they now have a much more equal seat at the table, and year after year they can improve the collaboration because they make agreements about performance. Through chain collaboration and multi-year agreements, they remain dynamic and can grow together.

Respondent 2 has already encountered a number of risks and challenges while working with the RGS-method. Wolters B.V. often enters organizations that are subject to change, with internal shifts in functions and departments, which can cause resistance and be a long-term process. For example, the pursuit of quality assurance can lead to changes in positions, such as the supervisor who has to be assigned a different role. The risk of a lack of support at all levels of the organization hinders cooperation. Another significant risk is the European tendering obligation for housing associations, which brings uncertainty, especially because this has been hanging over the sector for years. Risks and challenges do not necessarily differ per phase of the RGS-method.

Respondent 3 – Client of Wolters B.V.

According to respondent 3, the RGS-method is the right way for a good collaboration. He emphasizes the importance of partnership, where the client pursues ambitions and goals together with the contractor. RGS offers the flexibility to shape how you want to collaborate. Respondent 3's appreciation of the RGS-method stems from the ability to guarantee results and achieve goals by making smart plans. It is all about good cooperation, where agreements are made in advance to avoid discussions afterwards. The long-term perspective of the RGS-method, with agreements covering a period of time, is appreciated because of the possibility of optimally aligning quality and price. The result of good RGS collaboration is equality between all parties involved.

Respondent 3 experienced some risks when working with the RGS-method. First of all, he emphasizes the risk of budgeting and the importance of accurate planning. This is partly because a corporation makes a multi-year plan, so this should not differ much from reality. For example, a challenge emerged when the budget for 2023 was not effectively communicated. This led to a shortage of work for people and also affected the quality of buildings for the customer. The lack of good communication and firm agreements can not only lead to less work, but also to reduced cooperation.

Another risk that respondent 3 mentioned is the question of whether what has been devised is actually implemented. Sometimes conflicts arise if more work is done than budgeted or if not everything goes as agreed.

In addition, he pointed out the risk of reduced quality of the work, which not only leads to repair work but also to inconvenience and extra costs for the client. Quality assurance and clear agreements are therefore very important to manage these risks.

Respondent 4 – Client of Wolters B.V.

According to Respondent 4, the RGS approach is a useful tool for achieving goals. Even though this method involves some force, he finds it quite beneficial since it encourages a natural manner of working. The method forces cooperation, which is experienced as positive. He highlights the value of teamwork, in which the customer actively participates in goal-achieving and offers his practical expertise. Unlike traditional collaboration, where this involvement often only takes place at the end of the process, the RGS-method offers the opportunity to discuss risks from the start and gradually remove them.

A risk mentioned by respondent 4 is the translation of policy into profiles at the tactical level, where the correct translation of abstract objectives is crucial. At a more abstract level, risks arise from the lack of clarity in legislation and regulations, especially with abstract concepts such as 'independent living'.

The biggest risk according to the respondent is the lack of a risk file at the front end of the process. Governance compliance, starting at board level, is essential. He says that RGS must start with the business objectives and then be developed tactically and SMART based on complex strategies.

Another significant risk is the possibility that complex strategies are not properly aligned with the desired quality on the front end, blurring the difference between day-to-day operations

and the business case. It also concerns the involvement of asset managers, who often independently carry out variant studies, which entails a risk of mismatch between the current complex strategy and what is best for the complex.

Respondent 5 – Employee of trade association and co-producer of the book “Leidraad Resultaatgericht Samenwerken”

The “Resultaatgericht Samenwerken” Foundation plays an important role in the world of real estate maintenance and investments. This RGS foundation has published the book “Guideline for Result-Oriented Collaboration” (in Dutch “Leidraad Resultaatgericht Samenwerken”). This text below provides a brief summary of the stakeholder dialogue with the secretary of the foundation, who is also involved in developing parts of the book.

RGS is a methodology that distinguishes itself through result-oriented collaboration. Companies that apply the RGS-method are rewarded with the VGO quality mark. This quality mark not only focuses on implementation, but also on results: you are responsible for the results you deliver.

This approach differs significantly from effort-based collaboration. While guarantees for effort-oriented work are often limited to three years, the RGS-method imposes a longer guarantee period. It is important that by using the RGS-method, the client remains responsible for the result during this period. This is in contrast to traditional methods, where the product is the contractor’s choice and risks are less tightly allocated.

In a world of results-oriented collaboration, as a professional you are not only responsible for the execution of a project, but also for the plan, the product choice and a longer warranty period. Imagine that a customer wants an energy-neutral housing complex. Your job is not only to realize the project, but also to develop a sustainable plan and take responsibility for all aspects, from the number of homes to the status of every detail throughout its lifespan. Compared to traditional collaboration, this means more work but also offers more control and freedom in the development of the project. This approach requires commitment and dedication but leads to sustainable results that last over time.

Result-oriented work not only offers challenges but also opportunities. Companies have the freedom to choose the implementation and measures that best suit the set goals. This not only gives more influence on execution, but also allows companies to plan smarter and reduce peaks and valleys in work, thus improving workflow.

In the world of results-oriented collaboration, entering into long-term agreements with customers is a strategic move. Imagine a client has a vision for a 50-year partnership, even if the actual contract is for, say, 10 years. This approach creates a strong bond between the company and the customer. While long-term contracts are not always common, this still puts companies in a position to be considered the first choice for future projects. Building such a relationship means not only doing business for the present, but also investing in lasting customer loyalty that will bear fruit for years to come. The result is a mutual understanding and trust that makes customers more likely to return to the company for their future needs.

The opportunities mentioned can lead to more investment opportunities, better training, and a fertile environment for innovation. The importance of quality assurance is further emphasized in the world of RGS, where standards are set, and results agreements are measurable.

But as previously mentioned by respondent 5, the RGS-method is not without challenges. A well-organized business process is essential before venturing into this RGS-method. The process is the basis and core of success; without a solid foundation, the risks are unnecessarily high.

In the world of RGS, knowledge sharing between parties is welcomed, but there are limits. Information that could influence competitive relations, such as price formation, may not be shared. Horizontal and vertical collaboration between different disciplines and companies is encouraged, especially in the context of chain collaboration.

In the domain of results-oriented collaboration, there is training on risk management. However, it is remarkable that there is often little interest in this training. Only once in the past three years has the training been offered, and that was at the request of a specific customer. The need for this specific skill appears to be limited, possibly because companies need to have their business processes well organized before they even start using the RGS-method. This already reduces executive risks. Despite limited demand, the training remains an option, available to those who recognize that managing risk is a crucial aspect of this collaborative approach.

Also, the respondent added later in email: both the size of RGS projects and the number of disciplines within RGS projects are increasing: from painting to insulation, construction interventions, roof renovation and installation technology. This means that far-reaching knowledge is required in more areas of knowledge. You see that successful RGS companies

have grown enormously in size over the years, in terms of both implementation and (especially) development: they have almost become engineering firms, with people at HBO and WO level, where previously they were MBO students. There is also a chance that these companies will be able to complete the plan development that was previously done by external consultancy firms. Another chance is that these companies take over tasks from corporations. This therefore provides potential new paid service options.

Respondent 6 – Co-founder of RGS-method

Respondent 6 emphasizes the importance of understanding different business models and shifting from the traditional to chain collaboration as a paradigm shift. This transition requires attention to culture, competencies, and a gradual process to be effective. The respondent's insight is that this approach addresses risks, but there remains the derived risk that some matters may not be under control, which can discourage people and poses a risk to the entire collaboration in the chain.

Respondent 6 shares four critical success factors (CSF) in the RGS process based on practical experience. These factors, namely demand specification, integer expert advice, measuring and inspection, and integrated programming, are divided between two parties. On the one hand, the competence of the property owner is crucial, he must know what he wants and define the intended outcome. On the other hand, respondent 6 emphasizes the importance of honest expert advice, whereby co-makers must provide optimal advice without self-interest.

Integrated programming is central within the RGS process, in which the maintenance, improvements and sustainability of the real estate are recorded. A good demand specification and honest expert advice are necessary to effectively apply integrated programming. Respondent 6 explains that not all real estate companies have enough integrity, and an integer advice means giving the most optimal advice to the customer without self-interest.

With the RGS-method, the property owner stands at a distance and does not have to write specifications. Only results and problems are presented, after which co-makers come up with solutions. This is monitored by performance agreements and continuous measurements to see whether the agreed results are achieved.

Over the past 2/3 years, respondent 6 has discovered that some property maintenance companies may not have sufficient competencies to manage these four CSFs. These factors

are interconnected, and failure to control them can lead to problems in chain collaboration, dissatisfied customers, or unfulfilled promises from co-makers.

Respondent 6's strategy is to gain increasing insight into these critical success factors, develop a balance and understand how problems in one area can impact other aspects. He emphasizes that these insights are not included in his book "Leidraad Resultaatgericht Samenwerken" and are considered new insights.

Respondent 7 – Process supervisor of transformation organization

According to Respondent 7, the word "RGS" has become a catch-all phrase, frequently used to describe procedures that do not fully conform to actual RGS principles. While he believes strongly in the true use of RGS, he is aware of the frequency of diluted variants. According to respondent 7, the challenges in proper implementation stem from factors such as misunderstanding (lack of comprehension regarding principles and potential benefits), a reluctance to take risks (particularly in risk-averse corporations), and the resistance of ingrained attitudes and behaviours to change. Respondent 7 emphasises that obtaining the full benefits of RGS necessitates a fundamental shift in thinking and behaviour, a change that isn't often welcomed due to current habits and resistance to risk in the corporate environment.

As a consultant business steeped in the RGS technique, they occasionally act as orchestrators, demonstrating a more transparent and collaborative approach. However, this trend towards openness is not without risks. From a corporate standpoint, the growing responsibility and influence granted to maintenance parties means that they now write their own instructions. Unlike the conventional approach, in which the real estate corporation dictated the responsibilities, RGS entails more delegation to the market, developing a trust-based relationship that requires some norms and conventions to be abandoned. However, this action has inherent dangers, as the adage goes: no risk, no reward.

Another significant risk is the increased monitoring. With longer RGS contracts that link extension to performance, strong measures to assess satisfaction with the collaborative process and results are required. Inadequate monitoring endangers the overall efficacy of the partnership.

Furthermore, legal problems regarding corporate governance emerge. Corporations, which straddle the line between government and private organisations, frequently navigate their

own rules, potentially clashing with laws and procurement strategies. This legal complication threatens the long-term viability of cooperation, demonstrating the difficulty of complying with both legal obligations and company procurement standards.

Appendix VII – Risk assessment and explanation of field research risks

This assessment is based stakeholder dialogues and my own interpretation. Below is an assessment of the severity (impact on organizational change) and probability for each risk that is found in the stakeholder dialogues, along with a brief explanation.

#	Risk and challenges	Explanation risk	Mentioned by
1	'Force of habit'	The fact that the process is consistent from year to year can lead to a certain routine or habit. Repeating the same steps can hinder innovation as there may be less incentive to explore new approaches.	Respondent 1
2	Risks in the first four phases	The respondent identifies the initial phases as the period in which the greatest risks occur. This suggests that inaccuracies or problems in these early stages could lead to significant cost overruns or other complications in later phases.	Respondent 1
3	Implementation phase and documentation	In the execution phase, when teams are working on site, the risk of insufficient documentation is highlighted. The lack of clear recording of work performed can lead to problems with performance assessment and accountability.	Respondent 1
4	Financial risks for clients	The financial risk for clients is an important concern. Inaccurate execution in the early stages can lead to higher costs in the later stages. Clients strive for budget certainty and must ensure that financial resources are allocated at the right time.	Respondent 1
5	'Trust risk'	Building trust with customers is critical, and breaking promises can be considered a risk because customer churn can occur. Measuring and approving performance is essential, but time can be a limiting factor.	Respondent 1
6	Organizational change resistance	Resistance can arise when entering organisations that are undergoing internal transformations in roles and departments. This can be dangerous and can turn into a long-term process.	Respondent 2

7	Quality assurance impact	The pursuit of quality assurance within the RGS-method can result in job changes, such as reassigning a supervisor to a different role. This could lead to ambiguities and obstacles in the collaboration process.	Respondent 2
8	Lack of organizational support	This risk is about missing support at all levels of the organisation. This can be an obstacle for collaboration. The lack of support may have an impact on the effectiveness of RGS-method implementation.	Respondent 2
9	European tendering obligation	The European tendering obligation for housing associations is considered a significant risk, bringing uncertainty to the sector. The long-standing nature of this risk contributes to the difficulties that organisations, using the RGS-method, face.	Respondent 2
10	Budgeting and planning risk	A challenge lies in effective planning, particularly regarding the corporation's multi-year strategies. An example this respondent mentioned, shows the effects of insufficient communication, which results in a budgeting challenge. Due to this insufficient communication, there could be a shortage in labour, which will influence the quality of buildings offered to the client. The interconnected nature of these challenges shows the importance of planning and efficient communication within the RGS-method.	Respondent 3
11	Implementation risk	In RGS, it is important to check if plans really work. If there is more work than budgeted or if things don't go as agreed, it can cause problems. So, it is important to make sure the plans are implemented well to avoid conflicts and keep things running smoothly.	Respondent 3
12	Quality risk	There is worry regarding work quality at RGS. If the quality decreases, it might result in repairs, problems, and more costs. To address this, it is	Respondent 3

		emphasised that quality assurance and unambiguous agreements are critical. This helps to mitigate the risks connected with quality of work and ensuring a seamless cooperation.	
13	Communication and cooperation risk	When communication isn't clear, and agreements aren't solid in RGS, problems can arise. This can mean less work and less cooperation between everyone involved. So, it is crucial to communicate well and have strong agreements to keep things on track.	Respondent 3
14	Translation of policy to tactical level	The risk of incorrect translation of policy objectives into profiles is mentioned. It is essential to translate abstract objectives correctly, which poses a challenge at the tactical level.	Respondent 4
15	Lack of clarity in legislation and regulations	The use of abstract concepts, such as 'independent living', entails risks due to the lack of clarity in legislation and regulations at more abstract levels.	Respondent 4
16	Lack of risk file at the front	The lack of a risk file at the start of the process is mentioned as the biggest risk. Governance compliance, from board level up, is considered crucial. The respondent emphasizes that the RGS process must start with business objectives and then be developed tactically and SMART based on complex strategies.	Respondent 4
17	Mismatch between complex strategies and desired quality	According to respondent 4, there is a risk in the mismatch between complex strategies and desired quality. The potential risk at the beginning of the process is not aligning complex strategies with the envisioned quality, which can cause the line between the business case and day-to-day operations to become more unclear.	Respondent 4
18	Independent implementation of variant studies by asset managers	According to respondent 4, the involvement of asset managers in independent variant studies increases the possibility of a misalignment between	Respondent 4

		the existing complex strategy and what is best for the complex.	
19	Derived risk of lack of control	The transition to chain collaboration as a paradigm shift is seen as addressing risks, but there is a derived risk mentioned. This is the risk that certain matters may not be under control, leading to potential discouragement among people and posing a risk to the entire collaboration in the chain.	Respondent 6
20	Risk of insufficient competencies in real estate companies	Respondent 6 discovered over the past two to three years that some property maintenance companies may not have the required competencies to manage the four Critical Success Factors (CSFs) listed by this respondent (demand specification, integrated programming, measuring and inspection, and Integer expert advice). If these factors are beyond your control, there may be issues with chain collaboration, dissatisfied customers, or unmet commitments from co-makers.	Respondent 6
21	Dilution of RGS concept	The term “RGS” is often used loosely, which could cause confusion and diluted versions of the real RGS principles. This mislabelling might harm the authenticity and success of RGS implementations.	Respondent 7
22	Implementation challenges	Implementing RGS faces challenges like misunderstanding its principles, reluctance to take risks, and resistance to changing established attitudes. These obstacles can hinder the successful adoption of RGS.	Respondent 7
23	Shift towards openness	Delegating more responsibility to maintenance parties in the RGS approach fosters trust-based relationships but introduces risks. This change includes letting go of certain rules and procedures, introducing uncertainties that require careful handling for successful collaboration.	Respondent 7

24	Intensified monitoring	Having RGS contracts for a longer time, where extension depends on performance, means we need strong ways to check how things are going. If we don't monitor properly, it can be a big problem for how well we work together, possibly causing unhappiness and difficult relationships.	Respondent 7
25	Legal risks in governance	Corporations, positioned between government and private entities, face legal risks in aligning their policies with RGS methodology. Potential clashes between legislation and procurement strategies pose a risk to the sustainability of collaborations, requiring careful alignment with legal requirements and corporate policies.	Respondent 7
26	RGS-method imposes a longer guarantee period	This risk means that the use of the RGS-method leads to a longer warranty period. Compared to other methods, this can have financial and operational implications as responsibility for results is retained over an extended period of time.	Respondent 5
27	Responsibility for the result	This risk means that the RGS-method retains responsibility for the result, unlike traditional methods where the choice of product lies with the contractor. This deviation can affect how risks are distributed and managed, because the RGS-method places more control and responsibility on the person delivering the result.	Respondent 5
28	Professionals in RGS are responsible for project execution, plan, product choice, and a longer warranty period	The risk in this context lies in the broader responsibility that professionals have when applying the RGS-method. Because they are responsible not only for the execution of the project, but also for drawing up the plan, choosing the product and a longer warranty period, this can lead to an increased workload and complexity. The risk consists of the challenges and potential difficulties that may arise from these increased responsibilities, including the management of various aspects of the project and the potential	Respondent 5

		impact on the efficiency and effectiveness of implementation.	
29	Challenges include the need for a well-organized business process before adopting RGS-method	This risk highlights the challenges created by the need for a well-organized business process before applying the RGS-method. The risk consists of possible complications and difficulties that may arise if the business process is not sufficiently organized before switching to the RGS-method. It emphasizes the importance of a solid foundation and core business processes for successful implementation of the RGS-method.	Respondent 5

Figure 7.1: All risks from RGS-method

The risks mentioned in figure 7.1 are going to be filled in in the risk control matrix. It is indicated by the researcher for each risk how big the impact is and what the probability is of these risks, see appendix VII. The outcome of this can be found in figure 7.2 below.

Risk	Severity	Probability	Risk index (Severity x Probability)
1	Medium	Likely	Medium
2	High	Likely	High
3	High	Possible	Medium
4	High	Likely	High
5	High	Possible	Medium
6	High	Possible	Medium
7	Medium	Possible	Low
8	High	Possible	Medium
9	Very high	Very Likely	High
10	High	Likely	High
11	Medium	Possible	Low
12	Very high	Possible	High
13	High	Likely	High
14	Medium	Possible	Low
15	High	Possible	Medium
16	Very high	Possible	High
17	High	Possible	Medium

18	Medium	Unlikely	Low
19	High	Likely	High
20	High	Possible	Medium
21	Medium	Likely	Medium
22	High	Likely	High
23	Low	Possible	Low
24	High	Likely	High
25	High	Possible	Medium
26	Medium	Likely	Medium
27	Medium	Possible	Low
28	High	Possible	Medium
29	High	Likely	High

Figure 7.2: All risks and challenges categorised

In the figure 7.3 below all risks and challenges mentioned in figure 7.2 will be filled in the risk control matrix. This figure will show the risk control matrix of risk assessment explanation below. This makes it visible which risks and challenges are the greatest according to the researcher.

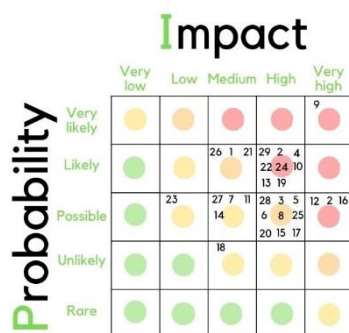


Figure 7.3: Risk control matrix of risks and challenges from “new risks” of respondents

Risk assessment explanation per risk:

1. ‘Force of habit’

- Severity: Medium
- Probability: Likely
- Explanation: The risk of falling into the ‘force of habit’ can have a medium impact, hindering innovation. The likelihood is considered likely as respondents express a tendency to stick to effective but familiar processes.

2. Risks in the first four phases

- Severity: High

- *Probability:* Likely
- *Explanation:* Risks in the initial phases are considered high severity as they can significantly impact the entire project. The likelihood is likely since the respondent identifies these phases as critical points for potential issues.

3. Implementation phase and documentation

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Inadequate documentation during the implementation phase can lead to problems, impacting performance assessment and accountability. The severity is high, and the likelihood is possible based on respondent concerns.

4. Financial risks for clients

- *Severity:* High
- *Probability:* Likely
- *Explanation:* Financial risks for clients pose a high severity, as inaccuracies in the early stages can lead to increased costs later. The likelihood is likely since it is identified as a major concern by the respondent.

5. 'Trust risk'

- *Severity:* High
- *Probability:* Possible
- *Explanation:* The risk of damaging trust has a high severity, as it can lead to customer churn. The likelihood is possible since maintaining trust is crucial, and the respondent acknowledges it as a risk.

6. Organizational change resistance

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Resistance during organizational changes poses a high risk as it can lead to prolonged and challenging collaboration. The likelihood is possible, given the inherent difficulties in adapting to internal transformations.

7. Quality assurance impact

- *Severity:* Medium
- *Probability:* Possible

- *Explanation:* The impact of quality assurance on job changes is a medium-severity risk. It has the potential to create ambiguities and obstacles, but the likelihood is possible, not certain.

8. Lack of organizational support

- *Severity:* High
- *Probability:* Possible
- *Explanation:* The risk of lacking support at all levels is high in severity as it directly hinders collaboration effectiveness. Given the potential challenges in garnering widespread support, the likelihood is considered possible.

9. European tendering obligation

- *Severity:* Very high
- *Probability:* Very likely
- *Explanation:* The European tendering obligation is a significant and persistent risk with very high severity. The uncertainty it brings to the sector is likely to impact organizations using the RGS-method. The long-standing nature of this risk contributes to its very high probability.

10. Budgeting and planning risk

- *Severity:* High
- *Probability:* Likely
- *Explanation:* The challenge in effective planning, especially with the corporation's multi-year strategies, poses a high severity risk. The example provided by the respondent, where insufficient communication led to a budgeting challenge, indicates that this is a likely scenario. The shortage in labour and the subsequent impact on building quality underscore the critical nature of planning and communication within the RGS-method.

11. Implementation risk

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* The risk of ineffective plan implementation carries a medium severity. It is possible that conflicts may arise if there's more work than budgeted or deviations from agreed plans. Ensuring plans are well-implemented is crucial, although the likelihood is not as high as some other risks.

12. Quality risk

- *Severity:* Very High
- *Probability:* Possible
- *Explanation:* Concerns about work quality in RGS elevate the severity to a very high level. If the quality decreases, it not only leads to repairs and problems but also incurs additional costs. It can also lead to client loss. Emphasizing quality assurance and clear agreements is vital to mitigate these significant risks associated with the quality of work and maintaining effective cooperation. The likelihood of occurrence is possible.

13. Communication and cooperation risk

- *Severity:* High
- *Probability:* Likely
- *Explanation:* The risk related to communication and cooperation is of high severity and likely occurrence. Insufficient communication and weak agreements can result in less work and diminished cooperation among involved parties. Effective communication and strong agreements are critical to prevent disruptions and maintain collaboration within the RGS-method.

14. Translation of policy to tactical level

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* The risk of an incorrect translation of policy objectives to tactical profiles is possible, with a potentially medium impact on the success of the RGS process.

15. Lack of clarity in legislation and regulations

- *Severity:* High
- *Probability:* Possible
- *Explanation:* The risk of uncertainty in legislation and regulations is potentially high because any changes or ambiguities in regulations can have significant consequences for business operations, which is possible to occur.

16. Lack of risk file at the front

- *Severity:* Very High
- *Probability:* Possible

- *Explanation:* The absence of a risk file at the beginning of the process is considered the most serious risk due to respondent 4, and the likelihood of it occurring is possible.

17. Mismatch between complex strategies and desired quality

- *Severity:* High
- *Probability:* Possible
- *Explanation:* The risk of a mismatch between complex strategies and desired quality can have a substantial impact because of the significant effect it can have on the outcome of the project or collaboration, although the likelihood of occurrence is not that great.

18. Independent implementation of variant studies by asset managers

- *Severity:* Medium
- *Probability:* Unlikely
- *Explanation:* The risk of independent variant studies by asset managers has a medium impact on the process, and the likelihood of it occurring is relatively low, so unlikely.

19. Derived risk of lack of control

- *Severity:* High
- *Probability:* Likely
- *Explanation:* The lack of control over certain matters in the paradigm shift to chain collaboration can lead to potential discouragement among stakeholders and pose a high risk to the success of the entire collaboration. Given the complex nature of transitioning to chain collaboration and the inherent challenges associated with cultural and process shifts, it is likely that some aspects may not be fully under control.

20. Risk of insufficient competencies in real estate companies

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Insufficient competencies in managing critical success factors (CSFs) can have a high impact on chain collaboration. Problems arising from this risk can lead to dissatisfied customers, unfulfilled promises, and overall project failure. The discovery that some property maintenance companies lack sufficient competencies

indicates a realistic possibility of this risk occurring. While not inevitable, it is possible, and measures need to be taken to mitigate the impact on collaboration.

21. Dilution of RGS concept

- *Severity:* Medium
- *Probability:* Likely
- *Explanation:* The risk is medium because the term “RGS” is becoming generic, often misapplied to processes that deviate from true RGS principles. This mislabelling can lead to diluted variations, potentially impacting the authenticity and effectiveness of RGS implementations. The likelihood of occurrence is likely.

22. Implementation challenges

- *Severity:* High
- *Probability:* Likely
- *Explanation:* Challenges in proper RGS implementation stem from factors like misunderstanding, reluctance to take risks (especially for risk-averse corporations), and resistance to change in attitudes and behaviours, which is a medium risk. It is likely that these challenges, if not addressed, can hinder the successful adoption of RGS principles.

23. Shift towards openness

- *Severity:* Low
- *Probability:* Possible
- *Explanation:* Delegating more responsibility to maintenance parties in the RGS approach fosters trust-based relationships but introduces risks. It is low because you need openness with working with the RGS-method. This change includes letting go of certain rules and procedures, introducing uncertainties that require careful handling for successful collaboration, which is possible.

24. Intensified monitoring

- *Severity:* High
- *Probability:* Likely
- *Explanation:* Longer RGS contracts linking extension to performance require robust monitoring mechanisms, so it is likely to occur. Inadequate monitoring poses a significant risk to the overall effectiveness of the collaborative process, potentially leading to dissatisfaction and strained partnerships.

25. Legal risks in governance

- *Severity:* High
- *Probability:* Possible
- *Explanation:* Corporations, straddling the line between government and private entities, face legal risks in reconciling their policies with RGS methodology. Potential clashes between legislation and procurement strategies pose a high risk to the sustainability of collaborations, necessitating careful alignment with legal requirements and corporate policies. This risk is possible to occur.

26. RGS-method imposes a longer guarantee period

- *Severity:* Medium
- *Probability:* Likely
- *Explanation:* This risk has a medium impact because it can have financial and operational consequences. The probability is “likely” because it is inherent in the application of the RGS-method.

27. Responsibility for the result

- *Severity:* Medium
- *Probability:* Possible
- *Explanation:* The risk has a medium impact because it affects the distribution of risks and responsibilities. The probability is “possible” because it differs from traditional methods.

28. Professionals in RGS are responsible for project execution, plan, product choice, and a longer warranty period

- *Severity:* High
- *Probability:* Possible
- *Explanation:* This risk has a high impact due to the broader responsibilities, which can lead to increased workload and complexity. The probability is “possible” because it depends on the extent to which professionals can manage these responsibilities.

29. Challenges include the need for a well-organized business process before adopting RGS-method

- *Severity:* High
- *Probability:* Likely
- *Explanation:* The risk has a high impact because it can hinder the successful implementation of the RGS-method. The probability is “likely” because it depends on

the degree of organization of the business process prior to the transition to the RGS-method.

Appendix VIII – Risk assessment of stakeholders from risks from literature

This assessment is based on the stakeholder dialogues. During the stakeholder dialogue, the risks identified from the literature are discussed with the respondent. It is discussed whether the respondent has experienced these risks themselves or whether there is a chance that these risks could occur. If it says ‘-’ by the explanation of the risk, this risk has either not been discussed or is not applicable in this case. After the dialogue, the respondent is asked to complete a table in which they can indicate the severity and probability of each risk or challenge. In this way, a personal top 3 can be created for each respondent. This can then be included into the decision of which risks to prioritise and for which risks to develop a mitigation strategy.

Respondent 1

#	Risk and challenges	Explanation risk by respondents
1	Loss of autonomy	The risk of loss of autonomy is illustrated by the respondent in the fact that both clients and contractors are used to their own fixed place within the process. When a party, such as Wolters B.V., takes on more tasks, this can cause tension with other disciplines. On the customer side, people may experience their jobs as insecure when they no longer have control over specific tasks, which are now taken care of by others.
2	Easier exchangeability of products	The risk of interchangeability is emphasized by the respondent, where working with one maintenance partner offers the opportunity to exchange tasks more easily within the chain.
3	Insufficient technology planning	The risk of insufficient technological planning is highlighted in relation to change management. The respondent points out that introducing new technology, such as iPads for foremen, can lead to resistance. However, relying on measurements and inspections using technology can increase confidence and increase the likelihood of being chosen for future projects.
4	Lack of expertise	The risk of a lack of expertise is described with an emphasis on the importance of knowledge, both at an individual and organizational level. The respondent indicates that he is

		dependent on the knowledge of chain partners and emphasizes the importance of continuous innovation.
5	Ineffective project governance	The risk of ineffective project management is linked to the fact that involvement from the beginning of the process, as with the RGS methodology, requires a different approach to project management. This entails risks for both clients and contractors, as they have to adapt to new structures.
6	Organizational misalignment	The risk of organizational misalignment is illustrated by the need for a holistic change within the organization to embrace a different business model. If the entire organization does not change, it will be difficult for the new way of working to succeed.
7	Have little practical use and are conceptual in character	The respondent denies that the RGS methodology has little practical use or is only conceptual in nature. He emphasizes that the methodology is practically applicable and the tools, such as measurements and inspections, help demonstrate quality.
8	Few empirical studies, and the results are often based on a single case study	The respondent emphasizes the challenge of empirical research, especially with rapidly evolving innovations. He points out the importance of continuous evaluation after each project to understand what is working well and how it can be improved.
9	Dynamics often aren't fully investigated	-
10	Involvement of multiple stakeholders	The risk of involvement of multiple stakeholders is highlighted on the client side, where more stakeholders are involved than at Wolters B.V. itself.
11	Diversified customer demands	The risk of diversified customer demands is recognized, and the respondent emphasizes the importance of documentation to provide customers with the correct information they are asking for, taking into account varying contractual arrangements.
12	Unclear customer demands	The respondent points out the risk of unclear customer demands, especially when the goals of the requirements and wishes are not clear. Sometimes customers cannot give a clear answer themselves.

13	Complex contracts	The risk of complex contracts is acknowledged, especially in collaboration contracts that can be complicated due to obligations to governments and the length of the contracts.
14	Complex environment	The respondent indicates that a more traditional company (such as Wolters B.V. itself) can reduce complexity, but that growth can make the environment more complex.
15	Dynamic customer demands	Over the years, customer requirements change. This may be due to obligations arising from, for example, government regulations.
16	Dynamic environment	Over the years, customer requirements change. This may be due to obligations arising from, for example, government regulations.
17	Long-term contracts	Long-term contracts are perceived as a risk, but the respondent emphasizes the need for flexibility and the ability to adapt to different types of customers.
18	Providers' lack of capabilities to contract OBC	-
19	Providers' lack of capabilities to deliver OBC	-
20	Providers' internal inconsistency	The respondent emphasizes that theoretically everything is clear, but internal inconsistency can occur between different project leaders, especially when taking over tasks.
21	Providers' internal resistance	-
22	Customers' lack of capabilities to consume the delivery and to play their roles	-
23	Other stakeholders' lack of capabilities to perform	This risk is highlighted as a major problem, with Wolters B.V. relying on the knowledge of chain partners and potentially being exposed to insufficient technical knowledge from the project leader itself (what is normal).

24	Mismatching in goals between providers and customers	The respondent indicates that goals are often the same, but the route to achieving them can differ.
25	Mismatching in visions between providers and customers	Differences in vision are emphasized, especially when contractual terms are discussed, and sometimes no clear answer is given.
26	Mismatching in practices between providers and customers	The risk of differences in practices is mentioned in relation to the execution of contracts and the need for clarity as to why certain practices are followed.
27	Mismatching in understandings between providers and customers	The risk of differences in practices is mentioned in relation to the execution of contracts and the need for clarity as to why certain practices are followed.
28	Mismatching in culture between providers and customers	The respondent recognizes cultural differences, especially in decision periods, and emphasizes the need to adapt to the customer's culture.
29	Mismatching in bargaining power between providers and customers	-
30	Dependency on customers	The dependence on customers is recognized as of great importance, and the respondent emphasizes the importance of looking for similar corporate cultures in the chain.
31	Dependency on other stakeholders	The dependence on other stakeholders is recognized as of great importance, and the respondent emphasizes the importance of looking for similar corporate cultures in the chain.
32	Upfront investments	The risk of upfront investments is mentioned, where collaborations require upfront investments, such as drawing up plans, without the certainty of contract extension.
33	Loss of strategic focus	The risk of losing strategic focus is illustrated by the respondent, who indicates that a lack of adjustment can cause problems, especially when success depends on repeating a particular strategy.
34	Requires substantial resource commitments	The respondent emphasizes that applying the RGS methodology requires full involvement. He also points out

		that this risk can arise when someone is in charge of a project without enough time.
35	Requires intrafirm cooperation	Collaboration between competitors is mentioned, with an emphasis on the importance of working together.
36	Capability retooling	The risk of having to retrain capabilities is mentioned, with the respondent describing how Wolters B.V. has entered the field of construction contractors, which is not always positively received by traditional contractors.

Below is the risk assessment of all the risks mentioned in the stakeholder dialogue according to respondent 1:

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	Loss of autonomy	Low	Likely	Low
2	Easier exchangeability of products	High	Possible	Medium
3	Insufficient technology planning	Medium	Possible	Low
4	Lack of expertise	High	Possible	Medium
5	Ineffective project governance	High	Likely	High
6	Organizational misalignment	Very high	Very likely	High
7	Have little practical use and are conceptual in character			
8	Few empirical studies, and the results are often based on a single case study	Low	Likely	Low

9	Dynamics often aren't fully investigated			
10	Involvement of multiple stakeholders	Medium	Likely	Medium
11	Diversified customer demands	Low	Likely	Low
12	Unclear customer demands	Low	Likely	Low
13	Complex contracts	Medium	Possible	Low
14	Complex environment	Low	Possible	Low
15	Dynamic customer demands	Low	Likely	Low
16	Dynamic environment	Low	Likely	Low
17	Long-term contracts	Low	Possible	Low
18	Providers' lack of capabilities to contract OBC			
19	Providers' lack of capabilities to deliver OBC			
20	Providers' internal inconsistency	Medium	Likely	Medium
21	Providers' internal resistance			
22	Customers' lack of capabilities to consume the delivery and to play their roles			
23	Other stakeholders' lack of capabilities to perform	High	Likely	High

24	Mismatching in goals between providers and customers	Medium	Possible	Low
25	Mismatching in visions between providers and customers	High	Possible	Medium
26	Mismatching in practices between providers and customers	Medium	Likely	Medium
27	Mismatching in understandings between providers and customers	Medium	Possible	Low
28	Mismatching in culture between providers and customers	Low	Possible	Low
29	Mismatching in bargaining power between providers and customers			
30	Dependency on customers	Medium	Possible	Low
31	Dependency on other stakeholders	Medium	Likely	Medium
32	Upfront investments	Low	Very likely	Medium
33	Loss of strategic focus	High	Possible	Medium
34	Requires substantial resource commitments	High	Possible	Medium
35	Requires intrafirm cooperation	Medium	Possible	Low

36	Capability retooling	Low	Likely	Low
37	'Force of habit'	Low	Likely	Low
38	Risks in the first four phases	High	Possible	Medium
39	Implementation phase and documentation	Medium	Possible	Low
40	Financial risks for clients	High	Possible	Medium
41	'Trust risk'	High	Unlikely	Low

Below is a top 3 of highest risks according to respondent 1 (based on the risk control matrix in paragraph 2.3):

1. Organizational misalignment (6)
2. Ineffective project governance (5)
2. Other stakeholders' lack of capabilities to perform (23)

Respondent 2

#	Risk and challenges	Explanation risk by respondents
1	Loss of autonomy	Respondent 2 emphasizes the difficulty of working with various maintenance firms, each having unique procedures. They occasionally must follow certain steps because of partnerships with three different companies. Comparing Wolters B.V. to a chameleon, adapting to client needs, points out the possible risks of excessive adjustments that could compromise autonomy.
2	Easier exchangeability of products	Respondent 2 indicated that this isn't a significant risk. They acknowledge the potential but stress that being selected implies a strong position. The difficulty of entering other projects is recognized and linked to the extended contract durations, but it is seen as a manageable aspect.
3	Insufficient technology planning	Respondent 2 emphasises the need of data management during partnerships in response to the risk of insufficient technology planning. They emphasise a stronger focus in such collaborations, lowering the risk for housing businesses as they strive for self-management.
4	Lack of expertise	Respondent 2 downplays the risk of expertise shortage by emphasizing Wolters B.V.' approach to maintain continuity in the chain. They explain how involving chain partners for advice, pricing, capacity, and quality effectively addresses and reduces the risk. Despite acknowledging a decline in expertise within housing corporations, they depict it as a manageable risk through strategic collaboration within the chain.
5	Ineffective project governance	Recognizing the risk of ineffective project governance, Respondent 2 emphasizes the necessity of support across all organizational levels. They note the parallel change processes during implementation, especially within housing corporations. The risk is acknowledged but often mitigated by internal support through advisory assistance or the appointment of a manager in real estate or chain control.
6	Organizational misalignment	Acknowledging the potential risk of organizational misalignment, Respondent 2 emphasizes the need for

		support across all layers of the organization. They rely on Wolters B.V.' extensive experience in establishing well-structured teams. However, there remains a perpetual risk in ensuring alignment, especially when dealing with corporates where resistance to change might persist.
7	Have little practical use and are conceptual in character	Respondent 2 acknowledges the risk associated with initiatives having little practical use and being overly conceptual during collaboration implementation. They describe the formation of workgroups during collaboration implementation, focusing on standardization in output and documents. While the collaboration progresses after this phase, the risk lies in potential concessions due to new ideas, emphasizing the challenge of maintaining practical applicability and consistent application.
8	Few empirical studies, and the results are often based on a single case study	Respondent 2 views the limited empirical studies as an opportunity rather than a significant risk. They see the advantage of gathering valuable insights from nine collaborative efforts and applying successful elements to new clients. The cross-pollination of information due to Wolters B.V.' involvement with multiple companies is acknowledged as beneficial, although the risk lies in the potential for diverse, customized approaches. Low availability of staff also plays a role in this. Standardization, achieved in Wolters B.V.' internal processes, serves as a countermeasure against inefficient practices resulting from tailored approaches.
9	Dynamics often aren't fully investigated	The risk associated with insufficient investigation of dynamics is attributed to outdated decision-making methods. Respondent 2 highlights the challenge of integrating new thinking and approaches not yet embedded in policies. The potential risk of delayed project assignment due to these outdated practices is acknowledged, emphasizing the need for modernized decision-making processes to avoid disruptions.
10	Involvement of multiple stakeholders	Respondent 2 sees the involvement of multiple stakeholders as an opportunity rather than a risk. They stress the value of

		<p>knowledge sharing and exchange, considering it a chance for mutual improvement. The potential concerns about sharing proprietary knowledge are outweighed by the benefits of gaining advantages in subsequent selections. The emphasis is on the importance of collaboration, recognizing the impossibility of working in isolation.</p>
11	Diversified customer demands	<p>Respondent 2 understands the risks of dealing with a variety of client needs during partnerships. They emphasise the difficulty of dealing with significant customisation, which leads to inefficiencies, by pointing out that firms prefer creating and executing their own solutions. While standardisation is thought to be superior, there is an acknowledgement that a balance must be maintained, with an appreciation for the enrichment provided by individualised insights.</p>
12	Unclear customer demands	<p>Addressing the risk of unclear customer demands, Respondent 2 acknowledges occasional indecisiveness among clients. They point out the challenges of decision-making gaps, potentially hindering collaboration progress. The importance of clarity in tasks and change management is stressed, noting the risk lies in delays caused by unspoken choices, creating obstacles in the execution of work.</p>
13	Complex contracts	<p>The challenge of complex contracts is acknowledged by Respondent 2, highlighting the increased responsibilities and tasks requiring additional personnel. Monitoring performance under these contracts is deemed a significant challenge.</p>
14	Complex environment	<p>Respondent 2 identifies the complexity of the environment as a significant risk, particularly in recruiting the right personnel. The financial risks are heightened as the turnover increases. The challenge lies in selecting individuals who can navigate this intricate environment effectively.</p>
15	Dynamic customer demands	<p>The unpredictability of client choices is recognized as a risk by Respondent 2. Changes in a corporation's policies</p>

		without consideration for Wolters B.V. could pose challenges. Despite these potential risks, Respondent 2 highlights the proactive approach of anticipating and negotiating changes, ensuring that adaptations are made through collaboration and consultation.
16	Dynamic environment	This risk is seen as an extension of dynamic customer demands. Respondent 2 acknowledges the continuously changing landscape, emphasizing the need for adaptability.
17	Long-term contracts	Respondent 2 perceives long-term contracts as non-risky, highlighting the stability and continuity they provide.
18	Providers' lack of capabilities to contract OBC	-
19	Providers' lack of capabilities to deliver OBC	-
20	Providers' internal inconsistency	Respondent 2 sees a challenge in providers not being consistent internally. They stress the importance of having the same work processes for different clients to keep the output and proposals consistent. This risk highlights the need for standardization within the organization to avoid differences in how services are delivered.
21	Providers' internal resistance	The presence of internal resistance during role transitions is acknowledged by Respondent 2. This is particularly noted among older employees.
22	Customers' lack of capabilities to consume the delivery and to play their roles	Respondent 2 recognizes the difficulty customers may face in adapting to new roles during collaboration.
23	Other stakeholders' lack of capabilities to perform	-
24	Mismatching in goals between providers and customers	Respondent 2 highlights the potential misalignment in goals between providers and customers as a noteworthy risk. Sometimes the goal isn't clear for clients.

25	Mismatching in visions between providers and customers	The risk of differing visions between providers and customers is acknowledged by Respondent 2. Support at all levels of the organization is important because directors and managers can want something, but at operational level they must also want it.
26	Mismatching in practices between providers and customers	-
27	Mismatching in understandings between providers and customers	The risk of misaligned understandings during the early stages of collaboration is acknowledged by Respondent 2 also because you have that changing role on the client side.
28	Mismatching in culture between providers and customers	Respondent 2 notes the importance of cultural alignment during the selection of chain partners by the client. This underscores the significance of shared values and work culture to ensure a harmonious collaboration. If the culture does not match, you will not get the project.
29	Mismatching in bargaining power between providers and customers	The risk associated with potential mismatches in bargaining power is recognized by Respondent 2. This emphasises the need of having a balanced and transparent connection in order to establish trust. Trust is important, but it should not become habitual. The connection must stay professional at all times.
30	Dependency on customers	Respondent 2 highlights the potential risk associated with dependency on customers, especially during the initial contracts. Although the loss of a single client is undesirable, having eight remaining clients provides a measure of resilience. Nevertheless, the risk escalates due to the involvement of significant financial figures.
31	Dependency on other stakeholders	This risk is recognised because of external elements such as environmental rules (for example, the “Wet op natuurbescherming”). This emphasises the possible dependency on other parties beyond the partnership.
32	Upfront investments	Respondent 2 recognizes the challenge of significant upfront investments during the implementation phase, but it is not a big risk because Wolters B.V. has never experienced that no contract arises after this phase.

33	Loss of strategic focus	The acknowledgment that the focus tends to diminish after the third or fourth year underscores the risk of losing strategic direction in long-term collaborations. Respondent 2 suggests that setting new goals and redefining the future of the collaboration can reignite energy and ensure the partnership remains future-proof.
34	Requires substantial resource commitments	While substantial resource commitments are essential for successful collaborations, Respondent 2 suggests that these costs are often covered by the continuity of the partnership. This perspective minimizes the perceived risk.
35	Requires intrafirm cooperation	Respondent 2 sees the requirement for intrafirm cooperation as more of a positive aspect than a significant risk. The shift from viewing other companies as competitors to collaborators is considered beneficial, fostering good relationships within the industry.
36	Capability retooling	The shift in service provision from routine maintenance to sustainable practices introduces the risk of needing updated capabilities. Respondent 2 notes the challenge of ensuring that the workforce possesses the necessary skills for these new tasks. Additionally, with competitors potentially entering this space, it highlights the need for ongoing skill development to stay competitive.

Below is the risk assessment of all the risks mentioned in the stakeholder dialogue according to respondent 2:

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	Loss of autonomy	Low	Unlikely	Neglectable
2	Easier exchangeability of products	Medium	Unlikely	Low
3	Insufficient technology planning	Medium	Likely	Medium
4	Lack of expertise	Medium	Likely	Medium

5	Ineffective project governance	High	Unlikely	Low
6	Organizational misalignment	Very high	Likely	High
7	Have little practical use and are conceptual in character	Low	Possible	Low
8	Few empirical studies, and the results are often based on a single case study	High	Likely	High
9	Dynamics often aren't fully investigated	Low	Likely	Low
10	Involvement of multiple stakeholders	Very low	Likely	Neglectable
11	Diversified customer demands	Low	Likely	Low
12	Unclear customer demands	High	Unlikely	Low
13	Complex contracts	Very high	Possible	High
14	Complex environment	Medium	Possible	Low
15	Dynamic customer demands	High	Possible	Medium
16	Dynamic environment	Low	Possible	Low
17	Long-term contracts	Very low	Very likely	Low
18	Providers' lack of capabilities to contract OBC			

19	Providers' lack of capabilities to deliver OBC			
20	Providers' internal inconsistency	Low	Likely	Low
21	Providers' internal resistance	Low	Possible	Low
22	Customers' lack of capabilities to consume the delivery and to play their roles	Medium	Possible	Low
23	Other stakeholders' lack of capabilities to perform			
24	Mismatching in goals between providers and customers	High	Possible	Medium
25	Mismatching in visions between providers and customers	High	Rare	Neglectable
26	Mismatching in practices between providers and customers			
27	Mismatching in understandings between providers and customers	High	Unlikely	Low
28	Mismatching in culture between providers and customers	High	Possible	Medium

29	Mismatching in bargaining power between providers and customers	High	Unlikely	Low
30	Dependency on customers	Very high	Possible	High
31	Dependency on other stakeholders	High	Unlikely	Low
32	Upfront investments	Low	Very likely	Medium
33	Loss of strategic focus	High	Likely	High
34	Requires substantial resource commitments	Low	Likely	Low
35	Requires intrafirm cooperation	Low	Possible	Low
36	Capability retooling	Medium	Possible	Low
37	Organizational change resistance	Medium	Possible	Low
38	Quality assurance impact	Low	Likely	Low
39	Lack of organizational support	High	Unlikely	Low
40	European tendering obligation	Very high	Likely	High

Below is a top 3 of highest risks according to respondent 2 (based on the risk control matrix in paragraph 2.3):

1. Organizational misalignment (6)
2. Ineffective project governance (5)
3. Other stakeholders' lack of capabilities to perform (23)

Respondent 3

#	Risk and challenges	Explanation risk by respondents
1	Loss of autonomy	The risk of loss of autonomy is emphasized, where it is crucial as a corporation to maintain an identity and strive for tenant satisfaction.
2	Easier exchangeability of products	Because of the importance of circularity, the respondent sees this as an opportunity. The commitment to quickly replace products with environmentally friendly alternatives demonstrates a proactive approach.
3	Insufficient technology planning	The need for careful technological planning is underlined, especially when considering sustainability efforts and the complexity of managing 750 complexes. This also refers to the loss of autonomy due to inadequate planning.
4	Lack of expertise	The mentioned risk of lack of expertise illustrates the vulnerability of retaining knowledge, especially if it is not documented.
5	Ineffective project governance	The risk of ineffective project governance is recognized, which can lead to problems in project implementation.
6	Organizational misalignment	The importance of organisational alignment is emphasised by respondent 3. He highlights the need for the organisation to clearly define its objectives. He mentioned that this gives a smooth implementation process.
7	Have little practical use and are conceptual in character	The identified risk of ideas that have little practical use and are mainly conceptual illustrates the need to realistically assess the feasibility of ambitious goals.
8	Few empirical studies, and the results are often based on a single case study	Respondent 3 sees a risk in limited empirical studies and basing results on a single case, emphasising the complexity of each project and the need for tailored solutions.
9	Dynamics often aren't fully investigated	Respondent 3 mentioned that there is a risk here. People do not know from each other where they are working at, the planning isn't always known.
10	Involvement of multiple stakeholders	This is seen as an opportunity rather than a risk, with early involvement of multiple stakeholders seen as a means of creating clarity from the outset.

11	Diversified customer demands	-
12	Unclear customer demands	-
13	Complex contracts	Is not seen as a risk.
14	Complex environment	Is not seen as a risk.
15	Dynamic customer demands	-
16	Dynamic environment	The identified risk of a dynamic environment is explained, with an emphasis on the challenges of managing 750 complexes and the continued growth ambitions. The dependence on healthcare parties and contractual variability emphasizes the need to remain agile, especially with regard to changing legislation.
17	Long-term contracts	Respondent 3 sees having a long-term contract as an opportunity and not as a risk. He mentioned the importance of a well-structured contract. He emphasise that long-term contracts are means to more success.
18	Providers' lack of capabilities to contract OBC	-
19	Providers' lack of capabilities to deliver OBC	-
20	Providers' internal inconsistency	The risk of internal inconsistency among providers is mentioned, resulting in loss of knowledge and relationships when welcoming new team members. The importance of documentation is emphasized.
21	Providers' internal resistance	The risk of internal resistance to the RGS system is highlighted, with the respondent feeling the resistance within the team. The need for explanation and addressing concerns about costs and values is emphasized.
22	Customers' lack of capabilities to consume the delivery and to play their roles	-

23	Other stakeholders' lack of capabilities to perform	No risk is seen here, as the customer is leading in determining the required capabilities of other stakeholders.
24	Mismatching in goals between providers and customers	This respondent recognises the risk of goal misalignment between providers and consumers, emphasising the significance of expectation management, particularly for co-makers (in this example, the contractor).
25	Mismatching in visions between providers and customers	A risk of disparity in visions between suppliers and customers is indicated, with the challenge of translating these visions into concrete activities.
26	Mismatching in practices between providers and customers	This is also mentioned as a risk. The respondent mentioned that sometimes people don't fully understand what the purpose of the desired result was.
27	Mismatching in understandings between providers and customers	The risk of disparity in understanding between suppliers and customers is underlined, highlighting the need for clear communication and expectation management.
28	Mismatching in culture between providers and customers	The risk of cultural disparity between the providers and customers is recognised. It is important to know each other's cultures in order to collaborate effectively.
29	Mismatching in bargaining power between providers and customers	The need for equality at the negotiating table is mentioned as a risk by this respondent. Some friction may be necessary to achieve the best plan.
30	Dependency on customers	-
31	Dependency on other stakeholders	The identified risk of dependency on the healthcare party is highlighted. The respondent recognizes the significant impact this dependency can have and emphasizes the risk of limited freedom of decision, especially for the co-makers.
32	Upfront investments	The aspect of initial investments perceived is mentioned as a risk. Specific attention is drawn to the need to ensure that these investments are profitable, with a focus on sustainability. The importance of well-considered investment decisions is emphasized.
33	Loss of strategic focus	This is certainly a risk according to this respondent, because you work as a team and you have equality in this team. This makes you think you know each other well and

		then you may fill in things for each other. This also partly has to do with trust. Trust is good, but it should not become a fill-in-the-blank exercise and it is important to keep each other sharp.
34	Requires substantial resource commitments	The risk of significant resource commitments is mentioned, emphasizing the need for involvement of all customers. Without this involvement, effective programming is considered as problematic.
35	Requires intrafirm cooperation	This respondent recognises the risk of insufficient intrafirm cooperation. The respondent mentioned an example of technical management colleagues who may be unaware of sustainability initiatives. This is why good internal communication is important.
36	Capability retooling	Respondent 3 acknowledges the risk capability retooling. The importance of agreement within the collaboration and preventing its disruption is pointed out. When making decisions throughout this process, everyone's involvement is essential.

Below is the risk assessment of all the risks mentioned in the stakeholder dialogue according to respondent 3:

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	Loss of autonomy	High	Possible	Medium
2	Easier exchangeability of products			
3	Insufficient technology planning	High	Likely	High
4	Lack of expertise	High	Possible	Medium
5	Ineffective project governance	High	Possible	Medium
6	Organizational misalignment	High	Likely	High

7	Have little practical use and are conceptual in character	Medium	Possible	Low
8	Few empirical studies, and the results are often based on a single case study	High	Possible	Medium
9	Dynamics often aren't fully investigated	High	Likely	High
10	Involvement of multiple stakeholders			
11	Diversified customer demands			
12	Unclear customer demands			
13	Complex contracts			
14	Complex environment			
15	Dynamic customer demands			
16	Dynamic environment			
17	Long-term contracts			
18	Providers' lack of capabilities to contract OBC			
19	Providers' lack of capabilities to deliver OBC			
20	Providers' internal inconsistency	Low	Very likely	Medium

21	Providers' internal resistance	High	Very Likely	High
22	Customers' lack of capabilities to consume the delivery and to play their roles			
23	Other stakeholders' lack of capabilities to perform			
24	Mismatching in goals between providers and customers	High	Likely	High
25	Mismatching in visions between providers and customers	High	Likely	High
26	Mismatching in practices between providers and customers	High	Possible	Medium
27	Mismatching in understandings between providers and customers	High	Possible	Medium
28	Mismatching in culture between providers and customers	Medium	Possible	Low
29	Mismatching in bargaining power between providers and customers	Very High	Very Likely	High
30	Dependency on customers			

31	Dependency on other stakeholders	Very High	Very Likely	High
32	Upfront investments	High	Possible	Medium
33	Loss of strategic focus	Medium	Possible	Low
34	Requires substantial resource commitments	High	Likely	High
35	Requires intrafirm cooperation	High	Likely	High
36	Capability retooling	Medium	Likely	Medium
37	Budgeting and planning risk	High	Very Likely	High
38	Implementation risk	High	Very Likely	High
39	Quality risk	High	Likely	High
40	Communication and cooperation risk	High	Very Likely	High

Below is a top 3 of highest risks according to respondent 3 (based on the risk control matrix in paragraph 2.3):

1. Mismatching in bargaining power between providers and customers (29)
1. Dependency on other stakeholders (31)
2. Providers' internal resistance (21)
2. Budgeting and planning risk (37)
2. Implementation risk (38)
2. Communication and cooperation risk (40)

Respondent 4

#	Risk and challenges	Explanation risk by respondents
1	Loss of autonomy	This is not seen as a risk.
2	Easier exchangeability of products	This is not seen as a risk.
3	Insufficient technology planning	This is not seen as a risk.
4	Lack of expertise	This is seen as a risk by respondent 4. If you collaborate based on the RGS-method, you work autonomously with routine things. For example, in year 1 you look at year 7 or 8. The risk here is that few people are able to deal with scenario formation.
5	Ineffective project governance	This is not seen as a risk.
6	Organizational misalignment	Respondent 4 mentioned that there is a risk here. Given the lack of monitoring and sharing, the RGS-method has high expectations. While the goal is to reduce traditional procedures by 20%, assessing the efficiency of the RGS methodology without appropriate proof is risky.
7	Have little practical use and are conceptual in character	No risk involved. RGS is structured into seven phases. At each stage, discussions focus on the practical application by reflecting on past phases. The approach evolves from a broad conceptual understanding to a more detailed, practical one, addressing risks in retrospect rather than beforehand.
8	Few empirical studies, and the results are often based on a single case study	There is a risk associated. Each RGS project is considered unique, although the general construction principles for corporations remain similar. The risk lies in not thoroughly examining previous projects to apply lessons learned and standardize processes for optimization.
9	Dynamics often aren't fully investigated	This is a risk according to respondent 4. Every project is unique; therefore, you need to take a look at the competencies a project asks for.
10	Involvement of multiple stakeholders	According to this respondent, there is no risk in the involvement of multiple stakeholders. Involving multiple

		perspectives can provide a comprehensive view of risks, offering a broader understanding of potential challenges.
11	Diversified customer demands	-
12	Unclear customer demands	-
13	Complex contracts	According to respondent 4, there is no risk because the contracts are not more complex. The contracts are relatively straightforward, involving a framework agreement where commitment is sought. Each subsequent element is then specified within the agreement. By outlining the value creation in the framework agreement, not all risks need to be explicitly defined to allow flexibility.
14	Complex environment	This respondent mentioned that this poses a risk. It demands a lot from the competencies of employees. With various stakeholders, each with their own interests, there's a need for openness to listen to others. Managing these diverse interests makes the environment challenging.
15	Dynamic customer demands	-
16	Dynamic environment	This is seen as a risk by this respondent. Interests can change. With RGS, you often work on budgets two years in advance, and factors like adjusted policies or regulations can impact the dynamics.
17	Long-term contracts	The risk lies in potential tunnel vision. It is crucial to assess risks collectively beforehand, considering issues like price formation and market conformity. Commitment is a key aspect, and what is stated in the framework agreement must be upheld. Failure to do so can lead to discussions about available resources and capacity. Additionally, compliance with the European procurement laws should be considered.
18	Providers' lack of capabilities to contract OBC	-

19	Providers' lack of capabilities to deliver OBC	-
20	Providers' internal inconsistency	According to respondent 4 different interests of stakeholders can lead to the risk of conflicts of interest. It is a risk that cannot be overlooked.
21	Providers' internal resistance	This is also a risk mentioned by this respondent, especially driven by complexity and changing demands. Many people, at a certain point, exhibit a certain level of resistance to change.
22	Customers' lack of capabilities to consume the delivery and to play their roles	-
23	Other stakeholders' lack of capabilities to perform	A risk. It requires a shift in mindset, understanding the accustomed competencies and working methods of stakeholders. Assessing individual capabilities and their approach to change management is crucial.
24	Mismatching in goals between providers and customers	According to respondent 4, this mismatch in goals is seen as a risk. Without proper alignment, disparate starting points result in unmet expectations, influencing the overall outcome.
25	Mismatching in visions between providers and customers	This risk is even a greater risk according to this respondent. For instance, if sustainability is a goal for one party but not the other, collaboration becomes challenging as their objectives don't align.
26	Mismatching in practices between providers and customers	This is also seen a risk by respondent 4. It is like looking at the same circumstance from several perspectives if you are used to different instances than what is being asked. The project experience suffers if the inquiry is comprehensive, yet the delivery falls short of expectations.
27	Mismatching in understandings between providers and customers	The mismatch between understandings is seen as a potential risk. Speaking different languages can lead to a lack of shared understanding, resulting in different outcomes.

28	Mismatching in culture between providers and customers	According to respondent 4, this mismatch encapsulates other the above-mentioned mismatches. When values don't align, even with clear specifications, the actual execution may deviate.
29	Mismatching in bargaining power between providers and customers	This is not seen as a risk. Within a collaboration there are a number of learning curves. It is important to pay more attention to people within the collaboration. What you want is for everyone to understand what needs to be done. And if this result is achieved, you can start to appreciate each other. If you start to appreciate, you will also do it together. Only then you start talking about trust. Until then there is no "together" and no trust. It is not about the negotiating position, but negotiation is also for respondent 4 about finding and being the right conversation partner and/or, what is your goal, etc.
30	Dependency on customers	-
31	Dependency on other stakeholders	This is a risk. If timelines aren't met, it can give RGS a negative perception. While RGS is different and aims to replace traditional techniques, it still depends on people and teams. For instance, if someone falls ill, it could delay the process.
32	Upfront investments	According to respondent 4 this is not seen as a potential risk. Everything is planned in advance, and commitments are made with clarity about the expectations.
33	Loss of strategic focus	This is seen as a significant risk. The success of collaboration depends on the alignment with the organization's vision. If the vision changes, questions about its compatibility with the collaboration arise. Regular reviews, ideally every 2-3 years, help ensure that the strategy remains relevant despite potential shifts in policy.
34	Requires substantial resource commitments	This is seen as a risk by this respondent because people and resources change rapidly, influenced by technological advancements and shifts in project teams. This often leads to adjustments during different phases.

35	Requires intrafirm cooperation	This is seen a risk by respondent 4 that is tied to the resistance of departments to adapt and collaborate more closely. Not everyone is open to shifting from old practices.
36	Capability retooling	This poses a risk as it requires adopting a broader perspective, assessing current practices against quality benchmarks and strategic goals. Many find it challenging to let go of established practices and view them critically.

Below is the risk assessment of all the risks mentioned in the stakeholder dialogue according to respondent 4:

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	Loss of autonomy			
2	Easier exchangeability of products			
3	Insufficient technology planning			
4	Lack of expertise	Medium	Likely	Medium
5	Ineffective project governance			
6	Organizational misalignment	High	Possible	Medium
7	Have little practical use and are conceptual in character			
8	Few empirical studies, and the results are often based on a single case study	Medium	Possible	Low
9	Dynamics often aren't fully investigated	Very High	Possible	High

10	Involvement of multiple stakeholders			
11	Diversified customer demands			
12	Unclear customer demands			
13	Complex contracts			
14	Complex environment	High	Likely	High
15	Dynamic customer demands			
16	Dynamic environment			
17	Long-term contracts	Very Low	Unlikely	Neglectable
18	Providers' lack of capabilities to contract OBC			
19	Providers' lack of capabilities to deliver OBC			
20	Providers' internal inconsistency	High	Possible	Medium
21	Providers' internal resistance	High	Possible	Medium
22	Customers' lack of capabilities to consume the delivery and to play their roles			
23	Other stakeholders' lack of capabilities to perform			
24	Mismatching in goals between	High	Unlikely	Low

	providers and customers			
25	Mismatching in visions between providers and customers	High	Unlikely	Low
26	Mismatching in practices between providers and customers	Medium	Possible	Low
27	Mismatching in understandings between providers and customers	High	Unlikely	Low
28	Mismatching in culture between providers and customers	Very High	Unlikely	Medium
29	Mismatching in bargaining power between providers and customers			
30	Dependency on customers			
31	Dependency on other stakeholders	Very High	Possible	High
32	Upfront investments			
33	Loss of strategic focus			
34	Requires substantial resource commitments	Medium	Unlikely	Low
35	Requires intrafirm cooperation	Medium	Possible	Low
36	Capability retooling	Medium	Possible	Low

37	Translation of policy to tactical level	Very High	Possible	High
38	Lack of clarity in legislation and regulations	Very High	Possible	High
39	Lack of risk file at the front	High	Likely	High
40	Mismatch between complex strategies and desired quality	High	Possible	Medium
41	Independent implementation of variant studies by asset managers	Medium	Unlikely	Low

Below is a top 3 of highest risks according to respondent 4 (based on the risk control matrix in paragraph 2.3):

1. Complex environment (14)
1. Other stakeholders' lack of capabilities to perform (23)
1. Lack of risk file at the front (39)
2. Dynamics often aren't fully investigated (9)
2. Dependency on other stakeholders (31)
2. Translation of policy to tactical level (37)
2. Lack of clarity in legislation and regulations (38)

Respondent 5

This risk assessment from respondent 5 from risks from literature has not been assessed. This is due to the fact that this was the first conversation early in the field study. After this conversation I discovered that the respondents themselves did not come up with many different risks, but that there are many risks associated with the RGS-method. As a result, I made the decision to test the risks that had already been found in the literature among the other respondents.

Respondent 6

#	Risk and challenges	Explanation risk by respondents
1	Loss of autonomy	In collaborative work focused on achieving specific results, there is a risk of losing control. Similar to a paradigm shift, this risk emerges when roles and accountability alter, instilling worries of both old and new losses. The fear of losing one's standing complicates matters even further. However, as the RGS process becomes more familiar and irreversible, the danger lowers with time. While the real estate industry may lag, the tide of globalisation and RGS knowledge is rapidly lowering this danger.
2	Easier exchangeability of products	Drawing parallels with automation, the process becomes interchangeable, fostering adaptability and ease of collaboration according to respondent 6. Product exchangeability is not a risk within the RGS-method, but rather a built-in feature. The method, which is designed for standardisation, enables easy interchangeability.
3	Insufficient technology planning	In the real estate industry, it concerns large amounts of money where the technical story is fairly standard. According to respondent 6, innovation is 60/70 percent dependent on social innovation. Chain collaboration starts with process innovation and continues with social innovation (this has to do with paradigm and competencies) and then technical innovation. It is important to control the entire process. So, you have to manage those 4 critical success factors in terms of process and planning. The biggest risk here is that people don't do this properly and don't

		understand it. So, no technological planning but more process control of all the activities in the entire chain.
4	Lack of expertise	Competence is essential, and the risk of a lack of different competencies, ranging from traditional handcraft to process management, is big. Individual and organisational abilities are both essential. If this risk is not addressed, the delicate balance necessary for effective RGS adoption is put at risk.
5	Ineffective project governance	The risk of ineffective project governance is present according to respondent 6. A quality management system, evaluating the integral process, provides insights into the mastery of the four critical success factors (CSFs). This poses a substantial concern in the absence of appropriate controls and a thorough awareness of risks.
6	Organizational misalignment	The risk emerges when organizations fail to recognize their role in the broader chain. Steering the ship requires a focus on the entire chain rather than individual departments. Setting and monitoring Key Performance Indicators (KPIs) become critical in mitigating this risk.
7	Have little practical use and are conceptual in character	While understanding the conceptual framework is crucial according to respondent 6, the risk lies in individuals struggling to grasp and apply these concepts practically. The challenge is not just in misinterpreting the concepts but in an inability to translate them into practical improvements.
8	Few empirical studies, and the results are often based on a single case study	This is not seen as a risk. Respondent 6 mentioned that this risk is mitigated by the amount of experience and extensive literature review undertaken. The over 20/30 years of knowledge ensures that the conceptualization and application are deeply rooted in empirical understanding.
9	Dynamics often aren't fully investigated	The risk lies, according to respondent 6, in the selection and procurement process. The danger develops as the partnership progresses if not addressed carefully. To deal with the changing nature of the client-contractor partnership, constant awareness and agility are essential.
10	Involvement of multiple stakeholders	This respondent mentioned that no risk lies in involving multiple stakeholders. It is more an integral aspect of the profession. Understanding and engaging with many

		stakeholders is necessary for navigating the complexities of collaboration.
11	Diversified customer demands	There is no potential risk in the domain of diversified customer demands. The stabilization achieved through RGS enables the effective and efficient execution of requests, emphasizing the importance of standardization. RGS acts as a risk mitigator, transitioning from the complexity of managing 300 traditional contracts to a streamlined 30.
12	Unclear customer demands	This risk is related to the demand specification. Many more requirements are imposed on the demand specification and if this does not go well, the risk increases. Respondent 6 does not mention this as a risk because you can see the consequences if things do not go well.
13	Complex contracts	The complexity of contracts is a nuanced risk within RGS. While a framework agreement under RGS can be relatively simple, the development process can be extensive. However, once established, the RGS manual becomes a great resource. It is a risk-reward scenario in which the initial investment returns benefits in the form of simplified operations in the future.
14	Complex environment	Navigating a complex environment necessitates strategic thinking. Recognising the complexities is critical for successful collaboration. Failure to recognise this complexity puts at risk productive collaboration in this setting according to respondent 6.
15	Dynamic customer demands	Dynamic customer demands find a solution in integral programming, which is a core principle of the RGS-method. The ability to adapt dynamically to a changing world is inherent in integral programming. RGS, by managing the entire chain, enhances the capability to respond flexibly, thereby reducing the risk associated with dynamic demands.
16	Dynamic environment	According to respondent 6 managing a dynamic environment effectively involves the use of a certain technique and mentality. The RGS-method is a risk management tool due to its set procedures and principles.

		The risk here lies in people’s capacity to understand and apply these concepts effectively.
17	Long-term contracts	Long-term contracts are seen as a chance according to respondent 6. This is due to the ongoing cooperation. The key is to work together for several years in order to guarantee benefits to both parties.
18	Providers’ lack of capabilities to contract OBC	-
19	Providers’ lack of capabilities to deliver OBC	-
20	Providers’ internal inconsistency	RGS operates on a foundation of clear input and output expectations. Careful control is required with one or two critical controls each phase. The supply of specifications on time is critical. Everyone is a colleague in the collaborative RGS environment, emphasizing the necessity of consistency. So yes, this is a risk, but this risk also occurs in traditional collaboration, and with RGS it comes to the forefront earlier and more sharply.
21	Providers’ internal resistance	Internal resistance within provider organizations is a risk influenced by changing dynamics and the need for widespread acceptance. The paradigm shift introduced by RGS may encounter resistance due to individuals within the provider organizations being resistant to change. This resistance poses a risk to the seamless implementation of RGS principles and practices.
22	Customers’ lack of capabilities to consume the delivery and to play their roles	The risk of customers lacking the necessary capabilities to comprehend and engage in the delivery process is present according to this respondent. If key stakeholders, particularly at the governance level, lack the understanding to play their roles effectively, it will be a significant risk. This risk is further increased when stakeholders are not only uninformed but also disinterested, potentially puts the success of the collaborative effort at risk.

23	Other stakeholders' lack of capabilities to perform	The competency levels of various stakeholders differ, this introduces a risk factor. While some stakeholders may possess the necessary competencies, others might lag behind. The risk lies in the effectiveness of the collaborative effort being contingent on the capabilities of each stakeholder. The importance of these competencies may also differ among stakeholders.
24	Mismatching in goals between providers and customers	Establishing common KPIs addresses, according to respondent 6, the risk of mismatched goals. However, effective communication is essential to clearly articulate the different interests and priorities. If these distinctions are well-defined and understood, the risk of misaligned goals will decrease.
25	Mismatching in visions between providers and customers	The risk of a mismatch in visions between providers and customers can, according to respondent 6, be mitigated by establishing a clear understanding at the outset. Alignment of business goals and development trajectories is crucial. Identifying suitable partners and ensuring parallelism in vision reduces the risk associated with conflicting perspectives.
26	Mismatching in practices between providers and customers	Respondent 6 mentioned that competencies, tools, experience, and knowledge contribute to the practices within a collaborative environment. Mismatched competencies can lead to uneven contributions, which can result in freeriding. This introduces a risk to the overall process and collaboration.
27	Mismatching in understandings between providers and customers	The substantial risk associated with mismatched understandings arises from the fundamental paradigm shift introduced by the RGS-method. Full comprehension of RGS principles is crucial for successful implementation. Failure to comprehend the complexities, which is frequently caused by insufficient reading and application of the key principles, poses a substantial danger to productive collaboration.
28	Mismatching in culture between providers and customers	Cultural differences can be a considerable challenge, especially when dealing with result-oriented work environments. Balancing the positive and potential pitfalls of

		diverse cultures is essential for harmony within the collaborative chain. A lack of cultural balance introduces a substantial risk, potentially leading to conflicts and hindered collaboration.
29	Mismatching in bargaining power between providers and customers	Bargaining power mismatches are effectively managed within the RGS framework. The stringent controls and checks inherent in RGS diminish the relevance of negotiations over price. The structured approach ensures that power imbalances are closely monitored, minimizing this risk.
30	Dependency on customers	While traditional structures often emphasize dependency on providers, respondent 6 introduces an inverted risk scenario. Property owners distancing themselves from the market may lead to increased reliance on co-makers. This heightened dependence, coupled with potential capacity shortages, can create a lock-in scenario. To mitigate this, establishing reliable institutions capable of quality control becomes crucial, countering the risk of overreliance on co-makers.
31	Dependency on other stakeholders	The reliance on diverse stakeholders is fundamental in collaborative processes. The risk associated with this dependency remains consistent with traditional practices, emphasizing the routine nature of this aspect within the collaborative framework.
32	Upfront investments	The upfront investments required in the initial stages of the collaborative process are deemed necessary and, therefore, not perceived as a risk. Recognized as a fundamental condition for success, these investments serve as a prerequisite rather than a speculative venture. The absence of such upfront commitments is seen as a genuine risk, potentially hindering the progress and viability of the collaborative initiative.
33	Loss of strategic focus	The risk of losing strategic focus is considered minimal within the RGS approach. Unlike other innovative businesses that are prone to being overly fascinated with new concepts, RGS is considered as a framework that

		necessitates a strategic and disciplined approach. Overemphasising some components, particularly the commercial orientation of property management, poses a risk, but the overall view is that RGS helps to retain, rather than risk, strategic focus.
34	Requires substantial resource commitments	A fundamental need that is recognised by respondent 6 is the need for substantial resource commitments. This recognition is reinforced by the fact that many organisations seek acquisition by investment firms in order to grow their resource capabilities.
35	Requires intrafirm cooperation	The need for intrafirm cooperation, especially in managing the intricate relationship between internal and external facets, is emphasized. The risk associated with inadequate cooperation is not necessarily heightened but becomes more apparent within the RGS framework. The collaborative nature of RGS emphasizes the importance of every individual within an organization fulfilling their role effectively. While RGS acts as a tool to mitigate this risk, it also accentuates the challenges posed by cultural differences and underscores the significance of seamless intrafirm collaboration.
36	Capability retooling	The concept of capability retooling is aligned with the Plan-Do-Check-Act cycle, emphasizing continuous improvement. Unlike the standard discourse in which everyone talks about continuous improvement but few practice it, RGS is positioned as an effective technique for developing this behaviour. The cyclical character of RGS, as supported by framework and principles, shows capability retooling as an inherent and useful feature of the RGS-method.

Below is the risk assessment of all the risks mentioned in the stakeholder dialogue according to respondent 6:

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	Loss of autonomy	Very low	Possible	Neglectable

2	Easier exchangeability of products			
3	Insufficient technology planning	Low	Possible	Low
4	Lack of expertise	Medium	Likely	Medium
5	Ineffective project governance	Medium	Possible	Low
6	Organizational misalignment	High	Possible	Medium
7	Have little practical use and are conceptual in character	Medium	Likely	Medium
8	Few empirical studies, and the results are often based on a single case study			
9	Dynamics often aren't fully investigated	Medium	Unlikely	Low
10	Involvement of multiple stakeholders			
11	Diversified customer demands			
12	Unclear customer demands	Low	Likely	Low
13	Complex contracts	Low	Unlikely	Neglectable
14	Complex environment	High	Likely	High
15	Dynamic customer demands	Low	Unlikely	Neglectable
16	Dynamic environment	Medium	Possible	Low

17	Long-term contracts			
18	Providers' lack of capabilities to contract OBC			
19	Providers' lack of capabilities to deliver OBC			
20	Providers' internal inconsistency	Medium	Possible	Low
21	Providers' internal resistance	Medium	Possible	Low
22	Customers' lack of capabilities to consume the delivery and to play their roles	High	Unlikely	Low
23	Other stakeholders' lack of capabilities to perform	High	Unlikely	Low
24	Mismatching in goals between providers and customers	Low	Likely	Low
25	Mismatching in visions between providers and customers	Low	Likely	Low
26	Mismatching in practices between providers and customers	Low	Likely	Low
27	Mismatching in understandings between providers and customers	Medium	Likely	Medium

28	Mismatching in culture between providers and customers	Medium	Likely	Medium
29	Mismatching in bargaining power between providers and customers	Low	Unlikely	Neglectable
30	Dependency on customers	High	Unlikely	Low
31	Dependency on other stakeholders	Low	Unlikely	Neglectable
32	Upfront investments			
33	Loss of strategic focus	Low	Unlikely	Neglectable
34	Requires substantial resource commitments	Very high	Unlikely	Medium
35	Requires intrafirm cooperation	Medium	Possible	Low
36	Capability retooling	Medium	Unlikely	Low
37	Derived risk of lack of control	-	-	-
38	Risk of insufficient competencies in real estate companies	Very high	Unlikely	Medium

Below is a top 3 of highest risks according to respondent 6 (based on the risk control matrix in paragraph 2.3):

1. Complex environment (14)
2. Organizational misalignment (6)
2. Lack of expertise (4)
2. Have little practical use and are conceptual in character (7)
2. Mismatching in understandings between providers and customers (27)
2. Mismatching in culture between providers and customers (28)

Respondent 7

#	Risk and challenges	Explanation risk by respondents
1	Loss of autonomy	Low risk but potentially high impact. Choosing to relinquish autonomy is a conscious decision, initially seeming low risk but with the potential for significant impact on employees, workflows, and functions. It might even be seen more as an opportunity than a risk.
2	Easier exchangeability of products	Not a risk, more an opportunity.
3	Insufficient technology planning	Not a risk, more an opportunity.
4	Lack of expertise	There will be more cooperation if you lack expertise. But it can also be a risk because you allow yourself to be serviced by the market, so you have fewer experts in-house. It will be a medium risk with a significant impact. You always remain dependent on the market parties. It can also be seen as an opportunity because you can make your own organization smaller and use your stakeholders more.
5	Ineffective project governance	Minimal danger, but if it happens, it can have a big effect. If the inadequate governance goes against the cooperative spirit of the partnership, there might be a serious risk.
6	Organizational misalignment	High risk. Organizational misalignment jeopardizes the intended benefits of collaboration and can significantly impact the effectiveness of the partnership.
7	Have little practical use and are conceptual in character	Yes, this is a risk. The risk lies in a gap between theoretical concepts and practical implementation, where people may not align their actions with the prescribed methods.
8	Few empirical studies, and the results are often based on a single case study	Risk of being overly convinced without scientific backing. Depending too much on anecdotal evidence instead of rigorous studies poses a potential risk, although not a significant one.
9	Dynamics often aren't fully investigated	This is a minor risk. Collaboration means also learning in the sense that it allows you to gain experience. Based on your experiences, you create teamwork.

10	Involvement of multiple stakeholders	Not a risk but an opportunity. Involving multiple stakeholders is seen as advantageous, providing opportunities for knowledge exchange and process improvement.
11	Diversified customer demands	Yes, there is a risk due to respondent 7. Customers' various expectations (considered as the tenant in this perspective), particularly in the context of housing businesses, are regarded as difficult to organise and may necessitate the development of more specialised solutions. Centralization and personalization do not necessarily go hand in hand.
12	Unclear customer demands	Risk, especially in terms of process disruptions, quality issues, and cost overruns. Ambiguity in customer demands can lead to various challenges in the collaboration.
13	Complex contracts	Not just a contractual issue but more about organizational readiness. While the complexity of long-term contracts is acknowledged, the primary challenge is seen in the organizational adjustments required.
14	Complex environment	Respondent 7 mentioned that there is a risk involved here. External pressure, particularly in terms of responsibility and oversight, might cause difficulties if not well-managed and legitimised. That is why it is critical to reach specific agreements.
15	Dynamic customer demands	Respondent 7 mentioned that there is no risk here. Collaboration's dynamic character is regarded as a strength, particularly in reacting to changing client expectations. The RGS approach is suitable for this.
16	Dynamic environment	Not a direct risk.
17	Long-term contracts	Risk lies in inadequate monitoring.
18	Providers' lack of capabilities to contract OBC	-
19	Providers' lack of capabilities to deliver OBC	-
20	Providers' internal inconsistency	Risk, particularly from the corporate side. The periodic shift in perspectives or reverting to previous approaches can be

		a risk, especially if not aligned with long-term contractual expectations.
21	Providers' internal resistance	Internal resistance is acknowledged as a risk by respondent 7. While smart interventions can initially address this, persistent internal resistance poses a substantial threat to collaboration. Overcoming scepticism within the corporation's workforce is crucial for successfully implementing the RGS-method, as it relies on building trust and departing from traditional suspicions.
22	Customers' lack of capabilities to consume the delivery and to play their roles	This is considered a risk by this respondent. The difficulty of incorporating new methodologies into established practises is recognised.
23	Other stakeholders' lack of capabilities to perform	This is also recognised as a risk. Collaboration's efficacy is determined by the competencies of all parties engaged.
24	Mismatching in goals between providers and customers	Respondent 7 acknowledges that there is a risk involved here. Misaligned goals might make it difficult to realise the benefits of collaboration.
25	Mismatching in visions between providers and customers	Also seen as a risk. Divergent long-term visions can jeopardize the sustainability of the collaboration.
26	Mismatching in practices between providers and customers	There is not a risk here according to respondent 7. Defining collaborative practises is viewed as a chance to achieve mutually beneficial outcomes. You can have the best of both worlds.
27	Mismatching in understandings between providers and customers	A significant risk is found in the absence of mutual understanding. This very important for the success of the RGS-method. It is quite difficult to accomplish the desired outcome if there is a lack of mutual understanding.
28	Mismatching in culture between providers and customers	Respondent 7 acknowledged the risk here. Cultures don't have to line up precisely. To avoid misunderstandings, it is necessary that both parties are aware of one another's cultures. This conflict may provide less of a consequence. Thus, there will be a risk if the cultures are too dissimilar.
29	Mismatching in bargaining power	No, not a risk. The transparent nature of the collaboration minimizes the need for negotiation.

	between providers and customers	
30	Dependency on customers	This is mentioned as a risk. Over-reliance on a single customer, such as a housing association, is seen as a risk.
31	Dependency on other stakeholders	Not directly a risk.
32	Upfront investments	Respondent 7 identified a potential problem. If you change the way you work together and your partner is in charge of both quality and cost, you may be required to make a large upfront payment. This initial outlay may be helpful in the long term since you will not have to spend money for, for example, the following ten years. Even while this technique might save money in the long run, the upfront investment may make things difficult at first. It may have a lower first impact since you must commit more money from the start, which may generate a little scepticism or hesitation.
33	Loss of strategic focus	The risk of losing sight of strategic goals is acknowledged, which could harm the collaboration's purpose.
34	Requires substantial resource commitments	This is not viewed as a risk, but rather as an opportunity. Commitment of resources is regarded as essential to effective collaboration, providing a firm basis for long-term initiatives.
35	Requires intrafirm cooperation	No risk.
36	Capability retooling	Respondent 7 stated that this potential risk can be seen as an opportunity rather than a risk. He mentioned that the dynamic nature of the RGS-method is useful for adapting to new developments.

Below is the risk assessment of all the risks mentioned in the stakeholder dialogue according to respondent 7:

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	Loss of autonomy	Very low	Very likely	Low

2	Easier exchangeability of products			
3	Insufficient technology planning	Very low	Unlikely	Neglectable
4	Lack of expertise	Very low	Unlikely	Neglectable
5	Ineffective project governance	Medium	Likely	Medium
6	Organizational misalignment	Medium	Likely	Medium
7	Have little practical use and are conceptual in character	Medium	Possible	Low
8	Few empirical studies, and the results are often based on a single case study	Very low	Unlikely	Neglectable
9	Dynamics often aren't fully investigated	Medium	Unlikely	Low
10	Involvement of multiple stakeholders			
11	Diversified customer demands	Very low	Unlikely	Neglectable
12	Unclear customer demands	Very low	Unlikely	Neglectable
13	Complex contracts	Medium	Possible	Low
14	Complex environment	Medium	Possible	Low
15	Dynamic customer demands			
16	Dynamic environment	Medium	Possible	Low

17	Long-term contracts	Medium	Likely	Medium
18	Providers' lack of capabilities to contract OBC			
19	Providers' lack of capabilities to deliver OBC			
20	Providers' internal inconsistency	Medium	Very likely	High
21	Providers' internal resistance	Medium	Likely	Medium
22	Customers' lack of capabilities to consume the delivery and to play their roles	High	Likely	High
23	Other stakeholders' lack of capabilities to perform	Medium	Likely	Medium
24	Mismatching in goals between providers and customers	Medium	Possible	Low
25	Mismatching in visions between providers and customers	Medium	Possible	Low
26	Mismatching in practices between providers and customers			
27	Mismatching in understandings between providers and customers			

28	Mismatching in culture between providers and customers	Medium	Possible	Low
29	Mismatching in bargaining power between providers and customers			
30	Dependency on customers	Low	Unlikely	Neglectable
31	Dependency on other stakeholders			
32	Upfront investments	High	Likely	High
33	Loss of strategic focus	Medium	Possible	Low
34	Requires substantial resource commitments			
35	Requires intrafirm cooperation			
36	Capability retooling	Medium	Possible	Low
37	Dilution of RGS concept	Low	Likely	Low
38	Implementation challenges	Low	Likely	Low
39	Shift towards openness	Medium	Possible	Low
40	Intensified monitoring	High	Possible	Medium
41	Legal risks in governance	Low	Likely	Low

Below is a top 3 of highest risks according to respondent 7 (based on the risk control matrix in paragraph 2.3):

1. Customers' lack of capabilities to consume the delivery and to play their roles (22)
2. Upfront investments (32)

2. Providers' internal inconsistency (20)

Appendix IX – Average of risk assessment respondents' literature risks

This appendix shows in two ways how risks can be prioritized based on averages.

In method 1, the risk assessment is looked at per respondent and a top 3 is made. These top 3s of the respondents are compared with each other and a top 4 is created based on the risks that occur multiple times in the 6 top 3s. After this, we look at where these risks rank in each top 3 and thus the risks are prioritized. See the elaboration of method 1 below. The risks highlighted in red are “new” risks. These risks are not discussed in this appendix and are therefore not included. This concerns the risks found in the literature.

In method 2, a number is attached to all risk indexes, neglectable = 1, low = 2, medium = 3, and high = 4. The people who consider a risk from the literature as non-risk are not labelled and therefore 0 (because no risk). After all risk indexes have been numbered, all risk indexes are added together and divided by the number of respondents, namely 6. From 0 to 0.9 is neglectable, 1.0 to 1.9 is low, 2.0 to 2.9 is medium and 3.0 or higher is high. See the elaboration of method 2 below.

In consultation with Wolters B.V., it was decided to use method 1. This was chosen because method 1 provides a qualitative and comparative analysis by identifying the top 3 risks for each respondent and then creating an aggregated top 4 based on common occurrences and highlights risks prioritized by their frequency across respondents' top 3 lists.

Method 2 offers a quantitative approach by assigning numerical values to risk levels and calculating an average across all respondents and provides a clear numerical indication of the overall risk level based on respondents' assessments.

So, method 1 is chosen due to a more nuanced, qualitative understanding of risks, and especially because the individual perspectives are important. A quantitative method is not preferred because this research is mostly qualitative.

Method 1

Top 3 of highest risks according to respondent 1:

1. Organizational misalignment (6)
2. Ineffective project governance (5)
2. Other stakeholders' lack of capabilities to perform (23)

Top 3 of highest risks according to respondent 2:

1. Organizational misalignment (6)
2. Ineffective project governance (5)
3. Other stakeholders' lack of capabilities to perform (23)

Top 3 of highest risks according to respondent 3:

1. Mismatching in bargaining power between providers and customers (29)
1. Dependency on other stakeholders (31)
2. Providers' internal resistance (21)
2. Budgeting and planning risk (37)
2. Implementation risk (38)
2. Communication and cooperation risk (40)

Top 3 of highest risks according to respondent 4:

1. Complex environment (14)
1. Other stakeholders' lack of capabilities to perform (23)
1. Lack of risk file at the front (39)
2. Dynamics often aren't fully investigated (9)
2. Dependency on other stakeholders (31)
2. Translation of policy to tactical level (37)
2. Lack of clarity in legislation and regulations (38)

Top 3 of highest risks according to respondent 6:

1. Complex environment (14)
2. Organizational misalignment (6)
2. Lack of expertise (4)
2. Have little practical use and are conceptual in character (7)
2. Mismatching in understandings between providers and customers (27)
2. Mismatching in culture between providers and customers (28)

Top 3 of highest risks according to respondent 7:

1. Customers' lack of capabilities to consume the delivery and to play their roles (22)
2. Upfront investments (32)
2. Providers' internal inconsistency (20)

Most frequently mentioned risks and where are these risks located:

Risk 6: 1 and 1

Risk 5: 2 and 2

Risk 23: 2, 3 and 1

Risk 14: 1 and 1

Based on the above information, the order will be as follows: in place 1 there are risks 6 and 14, and in place 2 there are risk 5 $((2+2)/2)$ and 23 $((2+3+1)/3)$.

Method 2

The left table shows the number of the risk index per risk and respondent. Here the severity is: 1 = very low, and 5 = very high. For the probability: 1 = rare, and 5 = very likely. The right table is filtered by lowest to highest average of risk index.

Risk number	Respondent number							Average	
	1	2	3	4	6	7			
1	2	1	3		1	2	1,5		
2	3	2					0,8		
3	2	3	4		2	1	2,0		
4	3	3	3	3	3	1	2,7		
5	4	2	3		2	3	2,3		
6	4	4	4	3	3	3	3,5		
7		2	2		3	2	1,5		
8	2	4	3	2		1	2,0		
9		2	4	4	2	2	2,3		
10	3	1					0,7		
11	2	2				1	0,8		
12	2	2			2	1	1,2		
13	2	4			1	2	1,5		
14	2	2		4	4	2	2,3		
15	2	3			1		1,0		
16	2	2	4	3	2	2	2,5		
17	2	2		1		3	1,3		
18							0,0	Neglectable	
19							0,0		
20	3	2	3	3	2	4	2,8		
21		2	4	3	2	3	2,3		
22		2			2	4	1,3		
23	4			4	2	3	2,2		
24	2	3	4	2	2	2	2,5		
25	3	1	4	2	2	2	2,3		
26	3		3	2	2		1,7		
27	2	2	3	2	3	2	2,3		
28	2	3	2	3	3	2	2,5		
29		2	4		1		1,2		
30	2	4			2	1	1,5		
31	3	2	4	4	1		2,3		
32	3	3	3			4	2,2		
33	3	4	2	1	1	2	2,2		
34	3	2	4	2	3		2,3		
35	2	2	4	2	2		2,0		
36	2	2	3	2	2	2	2,2		

Risk number	Respondent number							Average	
	1	2	3	4	6	7			
18							0,0	Neglectable	
19							0,0		
10	3	1					0,7		
2	3	2					0,8		
11	2	2				1	0,8		
15	2	3			1		1,0	Low	
12	2	2			2	1	1,2		
29		2	4		1		1,2		
17	2	2		1		3	1,3		
22		2			2	4	1,3		
1	2	1	3		1	2	1,5		
7		2	2		3	2	1,5		
13	2	4			1	2	1,5		
30	2	4			2	1	1,5		
26	3		3	2	2		1,7		
3	2	3	4		2	1	2,0	Medium	
8	2	4	3	2		1	2,0		
35	2	2	4	2	2		2,0		
23	4		4	4	2	3	2,2		
32	3	3	3		4		2,2		
33	3	4	2	1	1	2	2,2		
36	2	2	3	2	2	2	2,2		
5	4	2	3		2	3	2,3		
9		2	4	4	2	2	2,3		
14	2	2		4	4	2	2,3		
21		2	4	3	2	3	2,3		
25	3	1	4	2	2	2	2,3		
27	2	2	3	2	3	2	2,3		
27	2	2	3	2	3	2	2,3		
31	3	2	4	4	1		2,3		
34	3	2	4	2	3		2,3		
16	2	2	4	3	2	2	2,5		
24	2	3	4	2	2	2	2,5		
28	2	3	2	3	3	2	2,5		
4	3	3	3	3	3	1	2,7		
20	3	2	3	3	2	4	2,8		
6	4	4	4	4	3	3	3,5	High	

Figure 9: Risk index per respondent and risk number

The risk with the highest priority according to method 2 is risk 6, 20, 4, and 28 (on this order of highest priority). The risks with the yellow boxes before its number are the risks that emerged from method 1. It can be seen that risk 6 emerges as very important in both methods.

Appendix X – Risk assessment of stakeholders from “new” risks

This assessment is based on the stakeholder dialogues. During the stakeholder dialogue, new risks occurred before we identified the risks from the literature. After all the dialogues has been held, the respondent is asked to complete a table in which they can indicate the severity and probability of each risk or challenge. Because this item was added later and there was no longer enough time to interview all respondents, it was decided, in consultation with Wolters B.V., to highlight these risks from three sides: the client side, the contractor side and the advice side. As a result, it was decided to discuss these risks with respondents 2, 4, and 7. In this way, a personal top 3 can be created for each respondent. This can then be included into the decision of which risks to prioritise and for which risks to develop a mitigation strategy.

Risk 26, 27, 28, and 29 (see paragraph 4.3) will be left out due to the fact that respondent 5 (who showed me these risks) didn't do the risk assessment itself (see appendix VIII, respondent 5).

Respondent 2

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	'Force of habit'	Medium	Unlikely	Low
2	Risks in the first four phases	Medium	Unlikely	Low
3	Implementation phase and documentation	Medium	Possible	Low
4	Financial risks for clients	Medium	Unlikely	Low
5	'Trust risk'	Low	Unlikely	Neglectable
6	Organizational change resistance	Medium	Possible	Low
7	Quality assurance impact	Low	Likely	Low
8	Lack of organizational support	High	Unlikely	Low

9	European tendering obligation	Very high	Likely	High
10	Budgeting and planning risk	High	Possible	Medium
11	Implementation risk	High	Unlikely	Low
12	Quality risk	Medium	Unlikely	Low
13	Communication and cooperation risk	Medium	Unlikely	Low
14	Translation of policy to tactical level	High	Possible	Medium
15	Lack of clarity in legislation and regulations	High	Rare	Neglectable
16	Lack of risk file at the front	Low	Unlikely	Neglectable
17	Mismatch between complex strategies and desired quality	High	Unlikely	Low
18	Independent implementation of variant studies by asset managers	0	0	No risk
19	Derived risk of lack of control	Medium	Rare	Neglectable
20	Risk of insufficient competencies in real estate companies	High	Possible	Medium
21	Dilution of RGS concept	Low	Likely	Low
22	Implementation challenges	Medium	Possible	Low
23	Shift towards openness	Low	Likely	Low
24	Intensified monitoring	Very high	Likely	High

25	Legal risks in governance	High	Likely	High
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Below is a top 3 of highest risks according to respondent 2 (based on the risk control matrix in paragraph 2.3):

1. European tendering obligation (9)
1. Intensified monitoring (24)
2. Intensified monitoring (25)

Respondent 4

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	'Force of habit'	High	Rare	Neglectable
2	Risks in the first four phases	Medium	Possible	Low
3	Implementation phase and documentation	Medium	Possible	Low
4	Financial risks for clients	Low	Unlikely	Neglectable
5	'Trust risk'	Very low	Possible	Neglectable
6	Organizational change resistance	Medium	Likely	Medium
7	Quality assurance impact	Low	Likely	Low
8	Lack of organizational support	Very high	Possible	High
9	European tendering obligation	Medium	Possible	Low
10	Budgeting and planning risk	High	Possible	Medium
11	Implementation risk	High	Unlikely	Low
12	Quality risk	Low	Unlikely	Neglectable

13	Communication and cooperation risk	Medium	Unlikely	Low
14	Translation of policy to tactical level	Very High	Possible	High
15	Lack of clarity in legislation and regulations	Very High	Possible	High
16	Lack of risk file at the front	High	Likely	High
17	Mismatch between complex strategies and desired quality	High	Possible	Medium
18	Independent implementation of variant studies by asset managers	Medium	Unlikely	Low
19	Derived risk of lack of control	Medium	Possible	Low
20	Risk of insufficient competencies in real estate companies	Low	Likely	Low
21	Dilution of RGS concept	Low	Likely	Low
22	Implementation challenges	Medium	Likely	Medium
23	Shift towards openness	Low	Possible	Low
24	Intensified monitoring	Medium	Possible	Low
25	Legal risks in governance	Low	Unlikely	Neglectable

Below is a top 3 of highest risks according to respondent 4 (based on the risk control matrix in paragraph 2.3):

1. Lack of risk file at the front (16)
2. Lack of organizational support (8)

2. Translation of policy to tactical level (14)
2. Lack of clarity in legislation and regulations (15)

Respondent 7

Risk	Risk name	Severity	Probability	Risk index (Severity x Probability)
1	'Force of habit'	Medium	Likely	Medium
2	Risks in the first four phases	Medium	Possible	Low
3	Implementation phase and documentation	Medium	Unlikely	Low
4	Financial risks for clients	High	Possible	Medium
5	'Trust risk'	High	Unlikely	Low
6	Organizational change resistance	Medium	Possible	Low
7	Quality assurance impact	Medium	Possible	Low
8	Lack of organizational support	Very high	Possible	High
9	European tendering obligation	Low	Unlikely	Neglectable
10	Budgeting and planning risk	Medium	Likely	Medium
11	Implementation risk	Medium	Possible	Low
12	Quality risk	Medium	Possible	Low
13	Communication and cooperation risk	Low	Unlikely	Neglectable
14	Translation of policy to tactical level	Low	Possible	Low

15	Lack of clarity in legislation and regulations	Low	Possible	Low
16	Lack of risk file at the front	Low	Unlikely	Neglectable
17	Mismatch between complex strategies and desired quality	Medium	Unlikely	Low
18	Independent implementation of variant studies by asset managers	Medium	Unlikely	Low
19	Derived risk of lack of control	High	Unlikely	Low
20	Risk of insufficient competencies in real estate companies	Medium	Unlikely	Low
21	Dilution of RGS concept	Medium	Possible	Low
22	Implementation challenges	Low	Likely	Low
23	Shift towards openness	Low	Likely	Low
24	Intensified monitoring	Medium	Possible	Low
25	Legal risks in governance	High	Possible	Medium

Below is a top 3 of highest risks according to respondent 7 (based on the risk control matrix in paragraph 2.3):

1. Lack of organizational support (8)
2. 'Force of habit' (1) (medium)
2. Financial risks for clients (4) (medium)
2. Budgeting and planning risk (10) (medium)
2. Legal risks in governance (25) (medium)

Appendix XI – Average of risk assessment respondents’ “new” risks

This appendix shows in two ways how risks can be prioritized based on averages according to method 1 mentioned in appendix IX.

Below is a top 3 of highest risks according to respondent 2 (based on the risk control matrix in paragraph 2.3):

1. European tendering obligation (9)
1. Intensified monitoring (24)
2. Intensified monitoring (25)

Below is a top 3 of highest risks according to respondent 4 (based on the risk control matrix in paragraph 2.3):

1. Lack of risk file at the front (16)
2. Lack of organizational support (8)
2. Translation of policy to tactical level (14)
2. Lack of clarity in legislation and regulations (15)

Below is a top 3 of highest risks according to respondent 7 (based on the risk control matrix in paragraph 2.3):

1. Lack of organizational support (8)
2. ‘Force of habit’ (1) (medium)
2. Financial risks for clients (4) (medium)
2. Budgeting and planning risk (10) (medium)
2. Legal risks in governance (25) (medium)

Most frequently mentioned risks and where are these risks located:

Risk 8: 1 and 2

Risk 25: 2 and 2

Based on the above information, the order will be as follows: in place 1 there is risks 8 and in place 2 there are risk 25.

Appendix XII – Difference of risk assessments respondent categories

This appendix is the elaboration of figure 4.11 in paragraph 4.5. The first step was to calculate the averages of the severity and probability per risk and per category, see the first 4 tables. These were used to complete the 5th table. Here the severity is: 1 = very low, and 5 = very high. For the probability: 1 = rare, and 5 = very likely.

Risks from literature					
Risk number		Respondent number			Average
		1	2		
6	s	5	5	5	4,5
	p	5	4		
14	s	2	3		2,5
	p	3	3	3	
5	s	4	4	4	4
	p	4	2	3	
23	s	4		2	2
	p	4			

"New" risks					
Risk number		Respondent number			Average
		2	4	7	
8	s	3	3	3	3
	p	3	4	3	
25	s	4	5	2	2
	p	3	3	3	

Respondent number					
Risk number		Respondent number			Average
		3	4		
6	s	4	4	4	4
	p	4	3	3,5	
14	s		4	2	2
	p		4	2	
5	s	4		2	2
	p	3		1,5	
23	s		4	2	2
	p		4	2	

Respondent number					
Risk number		Respondent number			Average
		6	7		
6	s	4	3	3,5	3,5
	p	3	4	3,5	
14	s	4	3	3,5	3,5
	p	4	3	3,5	
5	s	3	3	3	3
	p	3	4	3,5	
23	s	4	3	3,5	3,5
	p	2	4	3	

s = Severity
p = Probability

The table below includes the averages of the first 4 risks (risk 6, 14, 5, and 23 - literature risks) that can be found in the first 3 tables above. Here respondents 1 and 2 are contractors, respondents 3 and 4 are clients and respondents 6 and 7 are consultants. For the "new" risks, only 1 respondent per category was asked to fill in these risks. So, these risks are already like an average. See table below.

Average of each contractor/client/consultant per highest prioritized risk							
		Risk number					
		6	14	5	23	8	25
Contractor	s	5	2,5	4	2	3	4
	p	5	3	3	2	3	3
Client	s	4	2	2	2	3	5
	p	4	2	1,5	2	4	3
Consultant	s	3,5	3,5	3	3,5	3	2
	p	3,5	3,5	3,5	3	3	3

In the table above are all the averages filled in from each respondent category.

Risk number		Difference		
		Cont-Cl	Cont-Cons	Cl-Cons
		6	1	2
14	s	0,5	-1	-1,5
	p	1	-0,5	-1,5
5	s	2	1	-1
	p	1,5	-0,5	-2
23	s	0	-1,5	-1,5
	p	0	-1	-1
8	s	0	0	0
	p	-1	0	1
25	s	-1	2	3
	p	0	1	0

Cont = Contractor
Cl = Client
Cons = Consultant

In the table above you can see the differences between each category. The numbers red boxes will be focused on in this paper. See paragraph 4.5 for further elaboration.

Appendix XIII – New risk assessment of top 4 literature risks (without error)

Due to the fact that a human error was made while processing the results, a wrong top 4 came up of most prioritized risks. Below, the risk assessment is made again, after which the correct top 4 is made. Everything is checked with pen and paper. During the review of the risk assessment, it became apparent that the top 3 of respondent 2 was incorrect (see green). This has been completed again and based on the information below, a new top is created of risks with the highest priority. As mentioned before the risks made red are the “new” risks and will not be used in this risk assessment, see appendix XI for these “new” risks.

Top 3 of highest risks according to respondent 1:

1. Organizational misalignment (6)
2. Ineffective project governance (5)
2. Other stakeholders’ lack of capabilities to perform (23)

Top 3 of highest risks according to respondent 2:

1. Organizational misalignment (6)
1. Financial risks for clients (40)
2. Few empirical studies, and the results are often based on a single case study (8)
2. Loss of strategic focus (33)

Top 3 of highest risks according to respondent 3:

1. Mismatching in bargaining power between providers and customers (29)
1. Dependency on other stakeholders (31)
2. Providers’ internal resistance (21)
2. Budgeting and planning risk (37)
2. Implementation risk (38)
2. Communication and cooperation risk (40)

Top 3 of highest risks according to respondent 4:

1. Complex environment (14)
1. Other stakeholders’ lack of capabilities to perform (23)
1. Lack of risk file at the front (39)
2. Dynamics often aren’t fully investigated (9)
2. Dependency on other stakeholders (31)
2. Translation of policy to tactical level (37)
2. Lack of clarity in legislation and regulations (38)

Top 3 of highest risks according to respondent 6:

1. Complex environment (14)
2. Organizational misalignment (6)
2. Lack of expertise (4)
2. Have little practical use and are conceptual in character (7)
2. Mismatching in understandings between providers and customers (27)
2. Mismatching in culture between providers and customers (28)

Top 3 of highest risks according to respondent 7:

1. Customers' lack of capabilities to consume the delivery and to play their roles (22)
2. Upfront investments (32)
3. Providers' internal inconsistency (20)

Most frequently mentioned risks and where are these risks located:

Risk 6: 1, 1 and 2

Risk 23: 1 and 2

Risk 31: 1 and 2

Risk 14: 1 and 1

Based on the above information, the order will be as follows: in place 1 there is risk 6, in place 2 there is risk 14, and in shared place 3 there are risk 23 and 31.