

Voluntary business-to-government data sharing to address societal challenges: exploring actor alignment to create mutual benefits

Master's thesis

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Abstract

Over the past decade, the availability of data has significantly increased as a result of the ‘datafication’ of society. Simultaneously, public and private organisations are undergoing increasing pressures to address societal challenges. As a result, data collaboratives recently gained more attention in the literature on public-private data sharing. Data collaboratives are public-private data sharing partnerships that address societal challenges. They are often challenging due to diverging interests of public and private organisations and tend to be one-off in practice. Furthermore, the benefits for government organisations are often clear, whereas the benefits for private organisations are not. Academic literature recognises the need to balance these interests and create win-win situations. However, limited knowledge is available on how this can be realised within a business-to-government (B2G) data sharing context. This research aimed to explore how voluntary B2G data sharing partnerships to address societal challenges can be mutually beneficial and can become more sustainable over a longer period of time. The framework for voluntary B2G data sharing by Rukanova et al. (2020) was used as a starting point of this study. This framework provided a basic view of how the interests of public and private organisations can be aligned to create mutual benefits, but lacked in-depth insights. Therefore, this study proposes an adapted version in which the organisational interests of public and private organisations, alignment mechanisms, and the creation of benefits are further specified. This study was designed as a single case study with embedded subcases. The Dutch national statistical office, CBS, was studied as the main case due to its prior history of collaboration with private organisations. Two voluntary B2G data sharing partnerships between CBS and private organisations were studied as subcases. Data was collected by means of interviews with CBS and its private partners. The empirical findings of this study suggest that voluntary B2G data sharing can be mutually beneficial through the alignment of interests. Here, *urgency* was identified as a main mechanism to find common ground in the context of the COVID-19 pandemic. As there is an increasing urgency regarding sustainability topics, it is not unthinkable that the willingness of private organisations to share data will increase as well. *Value renewal* is considered to be important to create a more sustainable partnership over a longer period of time. Further research is necessary to gain a better understanding of how interests are aligned and mutual benefit is created in other contexts.

Executive Summary

Through the use of PHD government organisations can gain a more comprehensive understanding of societal challenges and society in general. This makes voluntary B2G data sharing partnerships especially promising for national statistical offices (NSO). The Dutch NSO, CBS, has a prior history of collaborations with private organisations and is currently seeking to expand its data scouting activities, which focus on acquiring privately held data (PHD) to complement the already available data. With the use of additional PHD, CBS aims to make more comprehensive, accurate, granular, and timely statistics, which can in turn be used to, for example, better address societal challenges. However, private organisations are not always willing to share data with government organisations, as clear benefits often lack. Therefore, in expanding their data scouting activities CBS is interested in what they, as a government organisation, can do to convince private organisations to share their data. This study aims to gain a better understanding of how voluntary B2G data sharing partnerships can be mutually beneficial and how a more sustainable partnership can be created.

To do so, CBS was studied in a single case study with embedded subcases. The subcases being two examples of voluntary B2G data sharing partnerships between CBS and private organisations: the partnership around the *dashboard rapid indicators freight transport* and a partnership with *payment service providers*. Besides the subcase analyses, a short contextual analysis was conducted to better understand the context in which CBS and these partnerships were situated. Both the subcases and CBS' context were studied through the conceptual lens of an adapted version of the framework for voluntary B2G data sharing by Rukanova et al. (2020), in which the alignment of organisational interests to create mutual benefits stands central. The contextual analysis focused on legislative and technological factors that influence voluntary B2G data sharing partnerships, which are also represented in the framework. Data was collected by means of interviews with CBS personnel and representatives from the private organisations that were involved in the studied partnerships. Additionally, data was collected through study of case related documentation.

The findings of this study suggest several alignment mechanisms in which linked interests can be found between public and private organisations. Linked interests arise when the self-interests of organisations are connected to create social value. First, a sense of urgency to share data among private data holders can increase their willingness to share data and establish a common ground on which the partnership can build. Therefore, it is a promising mechanism to align the interests of public and private organisations. Second, the identification of a partner's needs, goals, and perception of the partnership have been identified as a main mechanism in these subcases. Identification of these aspects allows government organisations to better anticipate common interests and benefits. Third, establishing and maintaining intensive contact with partners was identified as an important alignment mechanism. The findings suggest that this is important to create mutual trust, which is considered to be important in voluntary B2G data sharing partnerships.

Besides finding linked interest, the findings suggest that the provision of incentives and rewards is a promising mechanism to create mutual benefits and a more sustainable partnership. This study identified three empirically derived categories of incentives and rewards: data reciprocity (e.g. returning data to the data holder), knowledge sharing (e.g. knowledge on data processing and analysing methods), and cost reductions for data holders (e.g. quid pro quo agreement). Based on the findings, it can also be argued that the provision of incentives and rewards can contribute to a more sustainable partnership over a longer period of time through value renewal.

To create win-win situations in future voluntary B2G data sharing partnerships between CBS and private organisations, government organisations can put focus on the urgency of sharing data. In the subcases, the urgency to share data among data holders stemmed from the uncertainties that they were confronted with during the early stages of the COVID-19 pandemic. Creating a sense of urgency

among data holders can increase their willingness to share data. Currently, there is an increasing urgency to address sustainability topics and resulting societal challenges. As these cause uncertainties, it is not unthinkable that the willingness of private organisations to share data will increase in the near future. This makes it an especially interesting alignment mechanism.

Furthermore, the identification of a partner's needs, goals, and perception of the partnership can be used to tailor the provision of incentives and rewards as well, as they can be adjusted to the needs and goals of private organisations. Here, it is useful to consider a private organisation's data culture. The findings suggest that incentives based on data reciprocity are less interesting for organisations with a less developed data culture, as they often cannot internalise the benefits of these incentives. Besides, the provision of incentives and especially that of rewards can contribute to a more sustainable partnership, as they can be a form of value renewal. This is considered to be important for a partnership to become sustainable over a longer period of time.

As mentioned before, establishing trust is important in voluntary B2G data sharing partnerships. The findings suggest that the legislation regarding the handling of data to which government organisations are subjected, creates a sense of trust among private organisations. For instance regarding privacy related issues, which are often considered to be a barrier in data sharing partnerships. This could be an interesting perception of legislative barriers that government organisations can exploit in the negotiation with private organisations in future voluntary B2G data sharing partnerships.

In conclusion, several promising alignment mechanisms have been identified in this study that government organisations can use to convince private organisations to share their data. These alignment mechanisms are considered promising to align the interests of public and private organisations to create mutual benefits and a more sustainable partnership over a longer period of time.

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Abbreviations

B2G	Business-to-government
CBS	Centraal Bureau voor de Statistiek (Statistics Netherlands)
CPI	Consumer price index
CSR	Corporate social responsibility
CSSP	Cross-sector social partnership
CVC	Collaborative value creation
DFT	Dashboard rapid indicators freight transport
DA	Data act
DGA	Data governance act
EC	European Commission
EU	European Union
GDPR	General data protection regulation
KIM	Kennisinstituut voor mobiliteitsbeleid (Netherlands institute for transport policy analysis)
MR	Ministerial regulation
BMO	Besluit markt en overheid (Market and Government Decision)
NSO	National statistical office
PHD	Privately held data
PPP	Public-private partnership
PSP	Payment service provider
SDG	Sustainable development goal
UN	United Nations

1. Introduction

Over the past decade, governments have become more dependent on private sector organisations to address societal challenges. These societal challenges are complex public problems that are deeply embedded in society and involve a multitude of different actors (Wittmayer et al., 2014; Head, 2008). Examples are the societal challenges addressed by the United Nations (UN) Sustainable Development Goals (SDGs): a set of interrelated goals aiming to create social and environmental value (United Nations, 2015). Creating social and environmental value is a timely and relevant topic for both public and private organisations (Porter & Kramer, 2011; Virakul, 2015). These organisations are undergoing increasing pressures to address societal challenges (Moslehpour et al., 2022). This requires them to undertake action and implement sustainable policies and initiatives (Poisson-de Haro & Bitektine, 2015; Pinz, Roudyani & Thaler, 2018). Due to the complexity and scope of societal challenges, coordinated joint efforts between public and private organisations, i.e. public-private partnerships (PPPs), are crucial in addressing them (e.g. Brinkerhoff & Brinkerhoff, 2011; George et al., 2016; Kuhlmann & Rip, 2018; Mazzucato, 2018).

Within PPPs data sharing has gained a more prominent role in recent years, as its potential to address societal challenges is increasingly recognized by public sector organisations (e.g. Verhulst et al., 2019; Sussha, Grönlund & Van Tulder, 2019a). This trend is sparked by the ‘datafication’ of society, which implies an increasing availability and variety of data types and sources due to the increasing use of smart technologies. Examples of this data are cell phone data, transaction data, and data derived from social media activity (EC, 2020). Governmental organisations often cannot generate and process this data themselves due to limited resources and/or capabilities. Therefore, they must collaborate with the private sector to access it.

As a result, the concept of *data collaboratives* recently gained more attention in the literature on public-private data sharing. Data collaboratives are a novel form of data sharing initiatives in which parties from both the public and private sector collaborate by sharing data to address societal challenges (Sussha, Janssen & Verhulst, 2017). An example of a data collaborative is ‘Data for Good’, which is a platform that facilitates data sharing between public and private organisations with the aim to contribute to the SDGs (Data for Good, N.D.).

To pave the way for data collaboratives in Europe, the European Commission (EC) is shaping the policy landscape to enable efficient and secure data sharing between public and private organisations. The EC has performed several exploratory studies into governance structures that support business-to-government (B2G) data sharing and its challenges (EC, 2018; EC, 2020). Recently, the EC has been working on the *Data Act*: a legal framework that includes provisions to facilitate B2G data sharing (EC, 2021a). Public consultation on the Data Act revealed that 91% of the public sector respondents perceive action on B2G data sharing for the public good as necessary, while only 38% of private sector respondents are like-minded (EC, 2021b). This points to different views on data sharing in the public and private sectors.

The cross-sectoral nature of data collaboratives makes it beneficial for governmental organisations to participate, as privately held data (PHD) can complement the available public data to gain a deeper, multi-perspectival understanding of a societal challenge (Robin, Klein & Jütting, 2016). The benefits for the private sector, however, are less straightforward, thus private organisations often lack motivation to voluntarily share the data. In practice, data collaboratives tend to be one-off and experimental (EC, 2020). The literature on data collaboratives identifies several major challenges: organisational (cost-benefit, economic barriers), governance-related (absence of structures, legal framework, standard scenarios), operational and technical (lack of digital infrastructure, mismatched datasets) (EC, 2020; Sussha et al., 2019a; Klievink & Janssen, 2012; Sussha et al., 2017). Within this literature, a critical challenge to data collaboratives is a lack of incentives and economic barriers (Klein

& Verhulst, 2017). In order for data collaboratives to scale up and move their practices forward, B2G data sharing for the public interests needs to be mutually beneficial and sustainable (EC, 2020).

Academic literature reiterates the need to understand the drivers and motivations of B2G data sharing in order to advance this practice of data collaboratives further (Susha et al., 2017, Susha et al., 2019a; Rukanova et al., 2020). Furthermore, it is argued that data collaboratives need to find win-win scenarios and balance the interests of public and private actors (Ruijter, 2021; Susha et al., 2019b; Klein & Verhulst, 2017; Klievink & Janssen, 2012). Although this need is recognized in the literature, limited knowledge is available on how this can be done in a B2G data sharing context. Practitioner literature provides initial insights regarding potential monetary and non-monetary incentives for businesses to engage in B2G data sharing arrangements (EC, 2020). However, these remain hypothetical. This study addresses this research gap and explores how the interests of actors in B2G data sharing can be aligned to create mutual benefits that can be sustained. In light of the above, the research question that this study addresses is the following:

How can voluntary B2G data sharing to address societal challenges be mutually beneficial and sustainable?

This study aims to contribute to the literature by developing empirically-derived knowledge about how the interests of public and private organisations can be aligned to make B2G data sharing mutually beneficial and how these partnerships can move beyond their one-off nature to be sustainable over a longer period of time. This will be achieved by providing empirical insights through embedded case study research. Government organisations willing to engage in voluntary B2G data sharing can benefit from this study to better understand the views of the different actors involved in such partnerships. This may allow government organisations to perform their data acquisition more efficiently. Furthermore, businesses can benefit from this study, as they may better understand the benefits of voluntary B2G data sharing for private organisations. This may increase businesses' willingness to share data. Besides, policy makers can indirectly benefit from this study as voluntary B2G data sharing may lead to a more comprehensive understanding of societal challenges. In turn, they may develop and implement more effective policies to address these challenges.

The remainder of this thesis is structured as follows: Section 2 outlines the theoretical foundation of this study, in which relevant literature on B2G data sharing is reviewed and a framework for voluntary B2G data sharing is discussed. In section 3, the research design and the cases are introduced. Section 4 provides the case analyses. The findings that are presented in Section 4 will be discussed in Section 5, which also provides a revised conceptual framework. Lastly, this thesis ends with conclusions and recommendations.

2. Theoretical Background

In the literature on data collaboratives and B2G data sharing several frameworks can be found that describe how B2G data sharing occur in a similar fashion (Rukanova et al., 2020; Susha & Gil-Garcia, 2019; Klievink, Van der Voort & Veeneman, 2018a; Ruijter, 2021). These frameworks try to conceptualise how data sharing partnerships are initiated and how the resulting benefits are achieved. However, these frameworks do not sufficiently explain how data collaboratives can be mutually beneficial. Therefore, insights from partnership research, which is a more mature field, are consulted to develop a conceptual framework.

The framework for voluntary B2G information sharing by Rukanova et al. (2020) will be used as a starting point (see Figure 1). This framework introduces the concept of *alignment of interests as*

part of the governance processes. Initially, this framework has been developed to describe the dynamics within a supply chain, but can be adopted to the wider context. It describes how factors and governance processes influence data sharing between businesses and governments and its related benefits. The central part of the framework helps to understand the context of a specific voluntary B2G data sharing initiative. This part also includes government-to-government relations. However, as this study focuses on B2G data sharing, these relations are not being addressed. B2G data sharing is influenced by the concept of *factors*, which Rukanova et al. (2020) categorises in three perspectives: technological, organisational and managerial, and public and policy. The technological perspective concerns factors influencing information technologies, whereas the public and policy perspective focuses on legislative factors (Rukanova et al., 2020). Public and private interest can be viewed as an organisational and managerial factor, which is the focus of this research. The alignment of interests can be regarded as alignment processes, which Rukanova et al. (2020) included as a governance process.

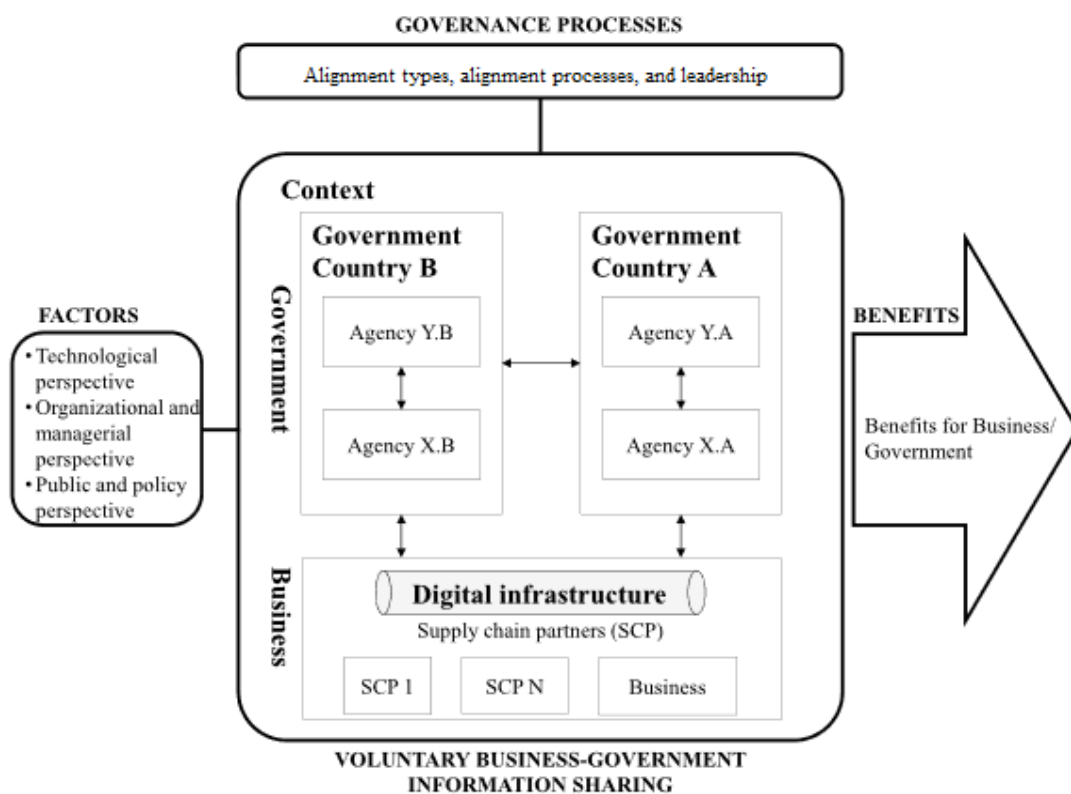


Figure 1: Framework for voluntary B2G information sharing (Rukanova et al., 2020).

As this study aims to understand how the interests of actors can be aligned in voluntary B2G data sharing partnerships to create mutual benefits and a sustainable partnership, the main concepts of interest for this research are: actor's interests, alignment of interests, and benefits/value creation. The framework of Rukanova et al. (2020) provides a basic view of these three, yet further elaboration is needed. For instance, the framework misses a more nuanced view of actors' interests at the start of the collaboration. Furthermore, in-depth insights in how alignment of interests is achieved are missing. Also, a detailed view of the benefits for businesses and governments in a B2G data sharing context misses. This study elaborates on Rukanova et al. (2020) by including a more detailed representation of these concepts, which is done by using insights from additional literature.

2.1 Public and Private Interests

The diverging interests of public and private organisations receive a lot of attention in the literature on B2G data sharing and the broader literature of public-private partnerships. In general, the debate revolves around the concepts of *self-interest* versus *societal interest* (EC, 2020; Mercille, 2021; Selsky & Parker, 2010; Sussha et al., 2019b). When pursuing self-interest, organisations seek to maximise their organisational gains, whereas organisations that pursue societal interest put more emphasis on addressing societal problems. These diverging interests cause tension between the parties involved, as each organisation perceives a collaboration as a way to meet their own needs and achieve their goals. Therefore, to achieve the potential success of such partnerships, it is essential to consider these different interests and find common grounds (Zhang, Dawes & Zarkis, 2005; Tan, Pan & Lim, 2005; Klievink et al., 2018a).

Mercille (2021) discusses these contrasting commercial and public interests in a B2G data sharing context. Businesses can be compelled to share data with governments or do so voluntarily. Mercille (2021) argues that voluntary B2G data sharing takes two forms: corporate-driven regressive sharing and genuine philanthropy. Corporate-driven regressive sharing implies that businesses share data with governments “(...) out of self-interest through controlled releases that directly benefit their bottom line and with little public benefits” (Mercille, 2021, p.8). In this case, the benefits of voluntary B2G data sharing are allocated to what Mercille calls the ‘elites’ (i.e. private organisations, governments). On the other hand, with genuine philanthropy businesses share data to address societal challenges without gaining commercial benefits (indirect benefits may apply). The benefits are thus allocated to the public good. Although this theory is developed in the context of smart cities, similar differences in interests and allocation of benefits are likely to occur in other contexts.

The observed differences between self-interest and societal interest are not always black and white. Selsky & Parker (2010) explore how self-interest and societal interest can interplay and combine in the context of cross-sector social partnerships (CSSPs). They do so by introducing three platforms for CSSPs that each describe an organisation's primary interest in the partnership. First, it is argued that self-interest can be combined with social aspects. Here, the motivation to address a social need arises from the organisation's primary interest: self-interest. These partnerships are then “viewed as a way to address organisational needs with the added benefit of addressing a social need” (Selsky & Parker, 2005, p. 815). Second, organisations can prioritise societal interest through CSSPs. Selsky & Parker (2010) argue that these organisations recognize that they have a social responsibility through external pressures. Third, it is argued that self-interest and societal interest can be combined through CSSPs. This third platform differs from the first as societal interest plays a much more prominent role alongside an organisation's self-interest. Here, organisations aim to address societal challenges while at the same time learning about the societal issue in collaboration with the partners. Sussha et al. (2019b) demonstrated that these platforms also apply to an information sharing context.

However, diverging interests are not always regarded as subversive. Especially sustainability oriented partnerships can benefit from a variety of different interests in their early stages of development as it stimulates cross-understanding and helps to prevent false-consensus (Curşeu & Schruijer, 2017). In later stages of development, however, the parties involved should still reach an operational consensus by aligning these interests for partnerships to find a passageway.

2.2 Alignment of Interests

To align these diverging interests the literature proposes several theoretical approaches that all highlight the interdependence between self-interest and societal interest and how joint value can be created.

Austin & Seitanidi (2012a, b) argue that to create value organisations must find *linked interests*. Linked interest connects the self-interests of businesses to joint value creation for the social good in

cross-sector partnerships. Linked interests eventually determine the direction and performance of a partnership (Monks & Minow, 1995). Although these concepts occur in business-non-profit partnerships, Austin & Seitanidi (2012a, p. 727) argue that there is ‘‘considerable spillover applicability to other collaboration configurations’’. Due to the voluntary nature of business-non-profit partnerships it is not unthinkable that these concepts apply to voluntary B2G data sharing partnerships.

Another stream of literature that discusses the alignment of interests to create value is that of *collaborative governance*. Collaborative governance refers to the interplay between internal processes (e.g. processes, social practices) and formal structures, such as instruments and mechanisms (e.g. laws, rules), for decision-making to align the actors involved (Klievink, Bharosa & Tan, 2016). Literature on governance of public-private partnerships suggests that the starting conditions of collaborative processes are crucial for such collaborations to find a passageway (Ansell & Gash, 2008; Klievink et al., 2018b). Starting conditions include, among others, interests. An essential part in this is the recognition of differing interests among stakeholders (Tan et al., 2005). However, finding common interests can often be difficult (Zhang et al., 2005; Klievink et al., 2018a). Susa et al. (2019a) argues that in voluntary data sharing arrangements this process is hampered as businesses interest may depend on the recipients’ intentions with the shared data.

To bring public and private organisations closer together and align their interests, certain mechanisms can be utilised. Zhang et al. (2005, p. 563) argue that ‘‘the converging perspectives among stakeholders on incentives can facilitate discussion in identifying common goals and building consensus in a diverse interorganizational multi-stakeholder environment’’. This suggests that the provision of incentives, which are external stimuli for organisations, can be used as a strategy to align stakeholders in public-private information sharing partnerships. This can be done by providing *direct* and/or *indirect incentives* (Martens & Duch-Brown, 2020; Eckartz, Hofman & Van Veenstra, 2014; Klein & Verhulst, 2017). Direct incentives are of monetary or regulatory nature and involve, for example, direct payments or subsidies. Indirect incentives aim to, for instance, boost a data supplier’s reputation or improve its ability to address certain issues by sharing knowledge.

2.3 Benefits and Value Creation

In the literature on business-non-profit partnerships the *collaborative value creation* (CVC) framework is introduced (Austin & Seitanidi, 2012a, b). Collaborative value is defined as the ‘‘transitory and enduring benefits relative to the costs that are generated due to the interaction of the collaborators and that accrue to organisations, individuals, and society’’ (Austin & Seitanidi, 2012a, p. 728). According to Austin (2010), creating value can be seen as the main reason for cross-sector partnerships. Within the CVC framework, a value creation spectrum consisting of four types of value resulting from cross-sector partnerships is proposed (Austin & Seitanidi, 2012a). First, *associational value* relates to the benefits that an organisation gains from partnering up with another organisation. According to Austin & Seitanidi (2012a), projected credibility, e.g. an improved organisational image, is a benefit that can be derived from associational value creation. Second, *transferred resource value* relates to the benefits that an organisation gains through the transfer of resources from one organisation to another. In the case of voluntary B2G data sharing, an example of a benefit derived from transferred resource value could be the publication of more comprehensive statistics. Here, value renewal is important for a collaboration to sustain. Third, *interaction value* refers to intangible benefits that organisations acquire from collaborating. Examples are, among others, all benefits that are related to joint learning and knowledge creation. Collaborating both requires and produces these intangibles. Fourth, *synergistic value* is derived from benefits that are created through a combination of resources that on their own would not create said value. Austin & Seitanidi (2012a) mention that the focus in synergistic value creation is on the ‘‘collaborative creation of social or environmental value [that] can generate economic value and

vice versa, sequentially or simultaneously, thereby creating a virtuous value circle'' (p.731). It is argued that innovation is a driver of synergistic value creation that could potentially bring about organisational and systemic transformation. Synergistic value is important in finding solutions to societal problems (Austin & Seitanidi, 2012b).

Although Austin & Seitanidi (2012a) make the above distinction of CVC, it must be noted that these categories are not exclusive and that they are likely to overlap and interact. For instance, both associational and interaction value can lead to an improved organisational reputation (Austin & Seitanidi, 2012a). As this research essentially studies cross-sector partnerships, it is not unlikely that these types of values will occur in voluntary B2G data sharing partnerships as well and are therefore perceived useful in describing the benefits for the parties involved.

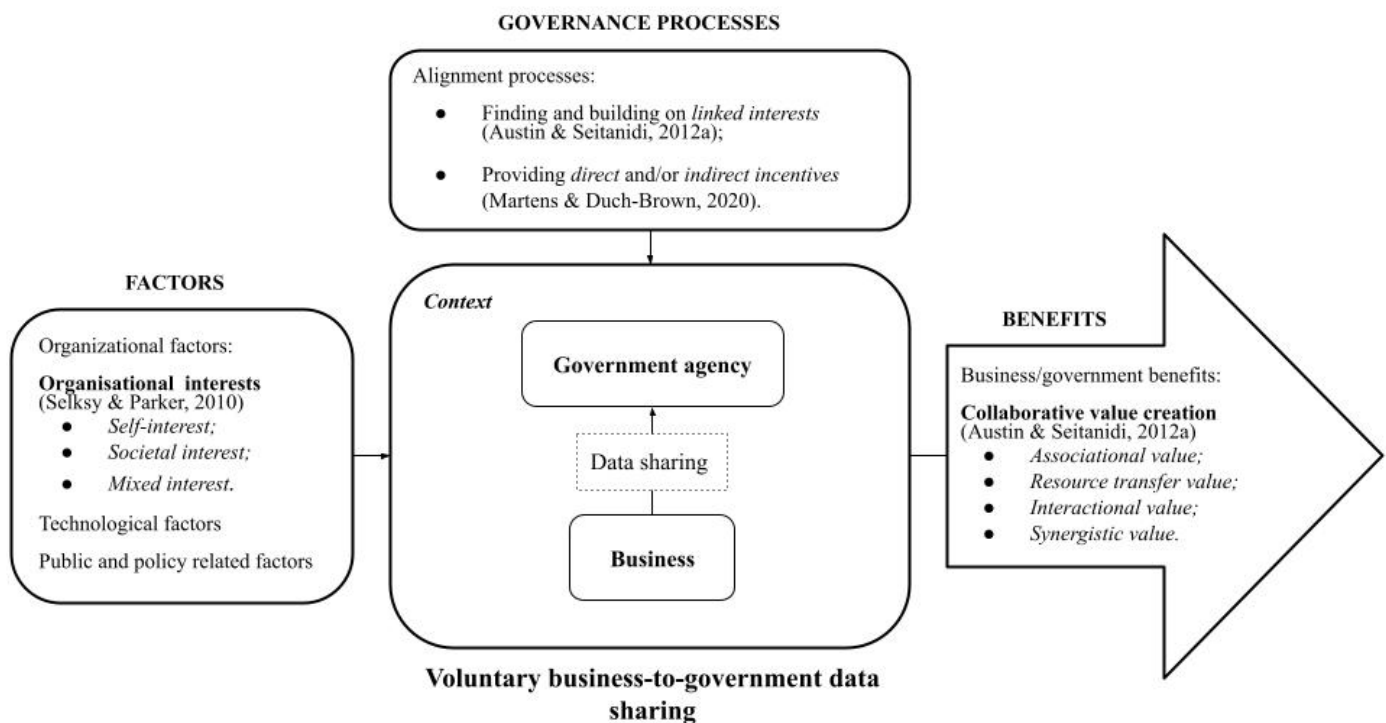


Figure 2: Conceptual framework of this study, which is an elaboration on Rukanova et al. (2020).

Figure 2 shows an elaborated version of the framework for voluntary B2G data sharing by Rukanova et al. (2020). To study how the interests of public and private organisations can be aligned to create mutual benefits and a sustainable partnership, this elaborated framework proposes several additions to the framework of Rukanova et al. (2020) in Figure 1. First, the organisational interests as part of the organisational factors are specified for data collaboratives by introducing the three platforms of organisational interests of Selsky & Parker (2010). Second, two alignment mechanisms are proposed to be promising for aligning interests in data collaboratives: finding and building on linked interests (Austin & Seitanidi, 2012a) and the provision of direct and/or indirect incentives (Martens & Duch-Brown, 2020). These concepts specify the alignment processes mentioned in Figure 1. Third, a specification of the mutual benefits that can result from data collaboratives is proposed, using the concept of collaborative value creation by Austin & Seitanidi (2012a) and their typology of values. Within this elaborated framework, the interests of businesses and governments are perceived to have an influence on voluntary B2G data sharing. As these interests are often divergent due to the cross-sector nature of B2G data sharing, they have to be aligned to collaboratively create value. The framework is developed around a one-business and one-government agency data sharing partnership for simplicity. As data collaboratives often involve more public and private actors, more actor relations can be added.

3. Methodology

This methodology chapter outlines the research design of this study as well as the methods that have been used. First, the research design will be introduced. This study was designed as an embedded case study consisting of a main case and two subcases. Then, the data collection and data analysing methods are discussed. Data was collected by means of interviews and document analysis and the data analysis was performed through coding. Lastly, the handling of confidential information and the role of the researcher will be discussed.

3.1 Research Design

To explore how B2G data sharing can be mutually beneficial and sustainable this research was designed as a single case study with embedded subcases (Yin, 2018) and was performed in an interpretive fashion (Walsham, 1995). The choice for a single case study with embedded subcases was justified by the explorative nature of the research question ('how?' question), as it allowed for an in-depth analysis across the subcases of the topic at hand and created a more general view for the main case (Yin, 2018). Besides, the embedded nature of this case study made it possible to explore the context in which the case was situated, which was relevant to study other factors that influence voluntary B2G data sharing initiatives. The interpretive nature of this study allowed for the use of theory "as an initial guide to design and data collection" (Walsham, 1995, p.76). Hence, the results could be interpreted in light of the adopted conceptual framework (Walsham, 1995; Ridder, 2017). According to Walsham (1995), this contributed to the development of rich insights into the key concepts of this study.

The main case that has been empirically studied is Statistics Netherlands (CBS), which is the Dutch national statistical office. CBS was chosen as a case study due to its history of collaborations, as a government organisation, with businesses on data sharing. Therefore, this case was regarded as an exemplifying case, as the case of CBS provided a suitable context in which actor alignment in B2G data sharing partnerships and the creation of mutual benefits could be studied (Bryman, 2016). Furthermore, the lessons that could be drawn from this case were regarded informative for other government organisations (Yin, 2018).

Through the use of PHD government organisations can gain a more comprehensive understanding of societal challenges. This makes such partnerships especially promising for national statistical offices (NSOs). NSOs can benefit from the use of PHD in creating more comprehensive, timely and accurate statistics (Henning et al., 2021; Alemanno, 2018; Robin, Klein & Jütting, 2016; Landefeld, 2014). These statistics can in turn be used to better address societal challenges, such as the SDGs. Currently, CBS seeks to expand its data scouting activities. CBS (2020a) states that the use of private sector data can help to improve its statistical processes, which benefits timely and effective policy making to address specific societal problems. This has been exemplified in the COVID-19 pandemic, in which CBS received data from different private sector organisations to determine its economic impact to support the development of suitable policies (CBS, 2021).

To better understand how CBS aligned its interests with private organisations and to what extent mutual benefits and a sustainable partnership were created, two embedded subcases were studied. These subcases were examples of voluntary B2G data sharing partnerships in which CBS was involved. The use of embedded subcases was valuable in this research as patterns could be identified across the subcases (Yin, 2018), which could disclose a general approach to voluntary B2G data sharing initiatives in the main case. Furthermore, the use of multiple subcases created more robust insights, because the findings were deeper grounded in empirical evidence (Eisenhardt & Graebner, 2007) In these two subcases, the unit of analysis is a partnership between public and private organisations.

The studied partnerships have been identified during talks with CBS personnel and/or were extracted from internal CBS databases. Based on these talks and the findings in the databases a shortlist of five potentially interesting collaborations was made. Then, case selection meetings were organised with the CBS project leaders of these five collaborations to explore whether the collaborations were suitable for this specific research. This was done through purposive criterion sampling, which is a non-probability sampling method that aims to select cases based on predetermined criteria that are deemed relevant to answer the research question (Cohen & Crabtree, 2006). The benefit of purposive sampling in this research is that, given the time constraints of this study, cases could be selected that were likely to be rich in information. To identify suitable subcases for the cause of this research, several selection criteria were used. These selection criteria aimed to select cases that were supposedly ‘information rich’. The selection criteria used in this study were the following:

- Cases must address a societal challenge to ensure a sustainability oriented case context;
- B2G data sharing within the cases must occur on a voluntary basis;
- Partnerships must be finished to increase the chance of collecting rich data;
- Willingness of interviewees to participate in this research and their availability.

If a collaboration was deemed fit, an additional meeting was scheduled with the CBS project leader to discuss practical matters, e.g. potentially interesting interviewees (both CBS and external partners) and approach strategies. Below, a description of each of the subcases is provided. Additionally, Table 1 provides an overview of the structure of the partnerships based on data receiver and data suppliers.

Dashboard rapid indicators freight transport

CBS collaborates with a range of public and private parties to gain insights in the current state of transportation movements in The Netherlands. Initially, this partnership started amidst the COVID-19 pandemic, when there was a ‘demand for quickly available data on the development of freight transport as a result of and during the COVID-19 pandemic’ (CBS, 2022). Included are aggregated and anonymised data on barges, aeroplanes, freight trains, trucks, and seagoing vessels. With this data and given the context in which the partnership was formed, statistics could be made that are in the first place relevant in addressing the societal challenges that arose as a result of the COVID-19 pandemic. Although this partnership is prolonged and therefore still ongoing (DFT-C), it can be considered finished, as the partners have shared their data and the dashboard rapid indicators freight transport (DFT) is published.

Table 1 presents the data suppliers and other partners that are involved in this case. The data suppliers in this partnership are the port companies. Three of the five involved port companies have been interviewed. The remaining two were not available for interviewing. The analytical focus in this case was on these port companies as they voluntarily shared their data, which made them eligible for interviewing. The other data suppliers did not qualify for interviewing for different reasons. Schiphol, for instance, contributed already publicly available data. ProRail, the Dutch National Road Traffic Database, and Rijkswaterstaat are public organisations. As this study explores how B2G data sharing can also be made beneficial for private organisations, the experiences of these organisations in this case are less relevant and were therefore not interviewed. The other partners in this case, the Netherlands Institute for Transport Policy Analysis and Panteia, a private policy research institute, did not contribute any data.

Payment service providers

CBS’s collaboration with payment service providers (PSPs) was initiated by CBS at the beginning of the COVID-19 pandemic when quick access to additional PHD was deemed necessary to map its

economic impact. To realise this partnership CBS contacted several PSPs to see whether they were willing to voluntarily share relevant data. Relevant data included anonymised data on in-shop and online transactions. As can be seen in Table 1, two PSPs eventually shared their data with CBS. Both were interviewed. Given the context in which this partnership was initiated the data that was shared with CBS was in the first place relevant in addressing economical and resulting societal challenges that arose from the COVID-19 pandemic, as the decline of certain sectors could be mapped as a result of the COVID-19 pandemic.

Although this collaboration did not lead to publication of the desired statistics due to the absence of a third private organisation, this collaboration was deemed interesting as the private organisations involved shared their data with CBS, which provided CBS useful insights (PSP-C). Therefore, studying this case can lead to interesting insights in how voluntary B2G data sharing arrangement can be mutually beneficial. Besides, this partnership is considered finished as the partnership in the context of the COVID-19 pandemic has ended. However, CBS is exploring ways to prolong this partnership with the involved partners by seeking ways in which the shared data can still be used.

Table 1: Selected cases of private sector data sharing with CBS.

Subcase	Data receiver	Data suppliers	Other partners	Source
Dashboard freight transport	<ul style="list-style-type: none"> CBS 	<ul style="list-style-type: none"> Groningen Seaports North Sea Port Port of Amsterdam Port of Moerdijk Port of Rotterdam Schiphol Royal Dirkzwager ProRail* Dutch National Road Traffic Database* Rijkswaterstaat* 	<ul style="list-style-type: none"> Netherlands Institute for Transport Policy Analysis (KIM)* Panteia 	CBS (2022)
Payment service providers	<ul style="list-style-type: none"> CBS 	<ul style="list-style-type: none"> PSP 1 PSP 2 	-	PSP-C

* Public organisation

Besides the main case, the context in which CBS operates, and thus in which the subcases are situated, was addressed in this study as well. The framework in Figure 2 includes, besides the organisational interests as part of the organisational and managerial factors, also public and policy related factors and technological factors. These factors are considered to influence the context in which voluntary B2G data sharing initiatives occur. Therefore, to place the findings of the main case analysis into context, a contextual analysis was performed. In the contextual analysis, the unit of analysis is a government organisation, which is the initiator of the studied voluntary B2G data sharing partnerships.

Figure 3 provides a representation of the research design. Here, the main case analysis and the contextual analysis are depicted. As can be seen in Figure 3, these analyses were conducted in somewhat similar fashion. This research involved study of documentation and interviews with relevant respondents at CBS and collaborating private sector organisations. Through these methods of data collection qualitative data on actor interests, mechanisms to align diverging interests, and actors' perception of benefits were collected. Besides, qualitative data was collected for the contextual analysis

through similar data collection methods. These data were analysed in different steps. First, raw data from the interviews and relevant documentation were analysed, which was done simultaneously with the data collection. Second, based on this first analysis a *within-case analysis* and *contextual analysis* was performed. For the subcases a detailed *case summary* was made. The last step of the analysis was a cross-case comparison. Here, based on the case summaries for each case, a comparison was made between the subcases and insights were generated (Eisenhardt, 1989). In this comparison, the findings of the contextual analysis were taken into account. These processes are elaborated on in the next subchapters.

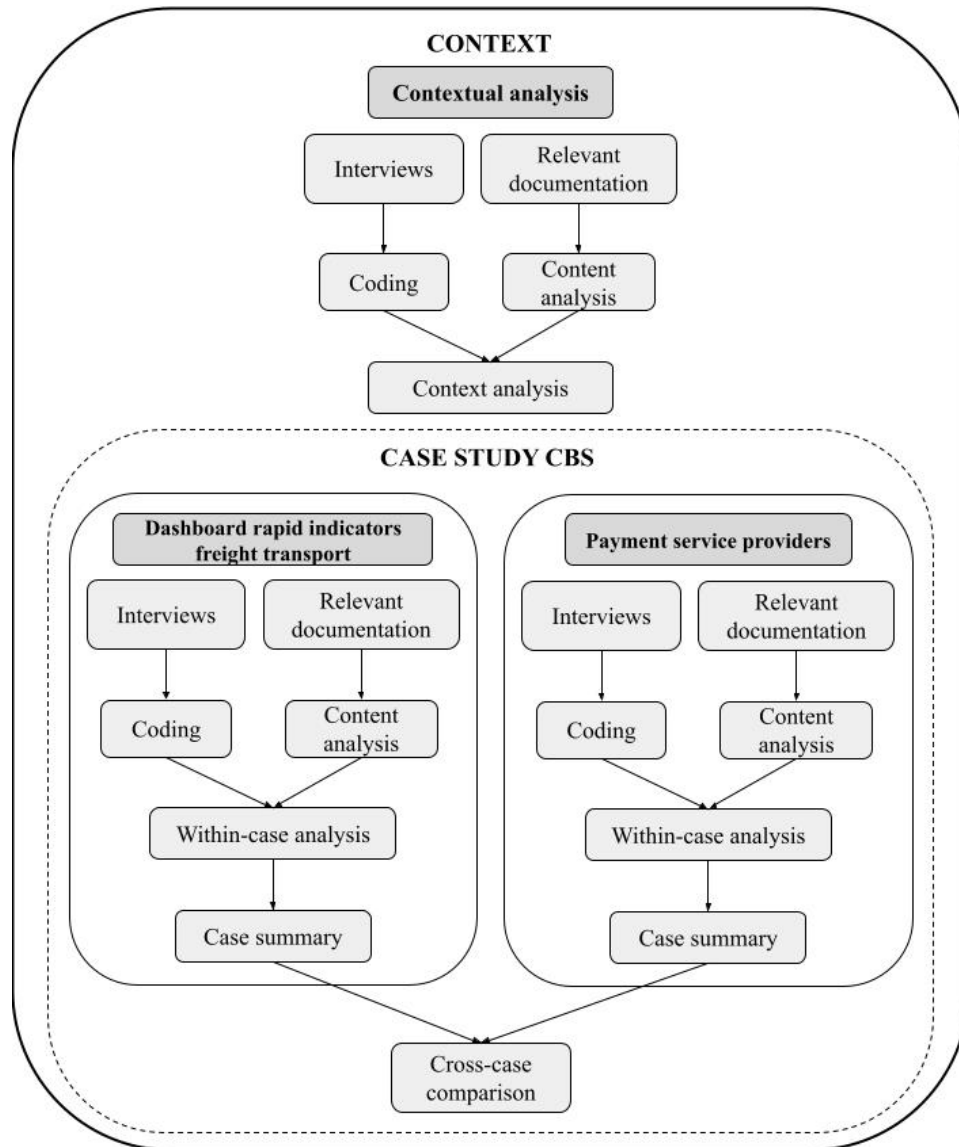


Figure 3: Representation of the research design.

3.3 Data Collection

The embedded case study design allows for the use of multiple sources of data (Yin, 2018). In this research, qualitative data from both interviews and case documentation was collected. The methods of data collection were the same for the context analysis and the subcases.

The interviews for the context analysis were conducted with CBS personnel that were not directly related to the subcases, but did have experience with voluntary B2G data sharing (Table 2). These respondents were identified in consultation with the supervisor at CBS. Besides insights into

public and policy factors and technological factors, data was collected from these interviews that provided insights into CBS' B2G data sharing practices in general. The interviews that were conducted in light of the subcases were held with respondents from CBS and the involved private partners (Table 3 and Table 4). These private sector respondents were identified by CBS as the main contact person for their organisation in the partnership. As these respondents were closely involved in the partnership, they were considered as promising respondents.

The interviews followed a semi-structured design, which provided the flexibility to respond to the interviewees' answers and ask additional questions when necessary (Alvesson, 2003; Bryman 2016). Interview questions were focused on identifying actors' perception on the main concepts that were addressed in the theory section. Separate interview guides for CBS respondents and business respondents were drawn up, which can be found in Appendix A. These interview guides have been subjected to several rounds of feedback from both supervisors at Utrecht University and CBS to ensure their validity. The interviews were conducted in a hybrid manner: either online via Microsoft Teams or in person. Moreover, the interviews were conducted in Dutch, as almost all respondents and the interviewer himself were Dutch. Therefore, the interview guide presented in Appendix A had to be translated before the interviews were conducted. To allow for transcription and reflection the interviews were recorded. The interviews that were conducted online have been recorded using Microsoft Team's built-in recording function. If an interview was conducted in person, it was recorded with a recorder application on a smartphone. Each respondent was presented the *informed consent form* that has been provided by Utrecht University (Appendix B) beforehand. After an interview was conducted and transcribed its transcription was sent to the interviewee for approval.

Additionally to the interviews, relevant internal case documentation was used as an input for the analyses. Access to these internal documents for the contextual study and the main case study was provided by CBS. The documents have been extracted from CBS' internal databases. Whether a document was deemed relevant has been decided after extensive desk research. To be relevant the internal documentation had to disclose data related to the key concepts of this study. If documentation was deemed relevant, it was subjected to a document analysis. Appendix C presents the case documentation that was included in this research. The use of internal case documentation provided additional insights that were not disclosed during the interviews. For example, contextual factors to which the cases were subject. These insights supported the interview findings. Furthermore, in some cases grey literature was consulted to further elaborate on, for example, legislation or more general CBS statements that were made in the interviews.

Table 2: Respondents of the contextual analysis.

ID	Organisation description	Interviewee position
CBS-1	Statistical office	Innovation management
CBS-2	Statistical office	Strategy and board advice
CBS-3	Statistical office	International relations
CBS-4	Statistical office	Account management
CBS-5	Statistical office	Policy statistics and data services

Table 3: Respondents of the dashboard rapid indicators freight transport case.

ID	Organisation type	Organisation description	Interviewee position
DFT-C	Data receiver	Statistical office	Project manager
DFT-P1	Data supplier	Port company	Information and integration
DFT-P2	Data supplier	Port company	Competitive intelligence
DFT-P3	Data supplier	Port company	Business development and intelligence

Table 4: Respondents of the payment service providers case.

ID	Organisation type	Organisation description	Interviewee position
PSP-C	Data receiver	Statistical office	Project manager
PSP-P1	Data supplier	Payment service provider	Global public policy and research
PSP-P2	Data supplier	Payment service provider	Marketing

3.4 Data Analysis

The data analysis was performed in a thematic fashion, which aims to identify themes that provide a basis for the theoretical understanding of the data and make a theoretical contribution to the literature (Bryman, 2016). The subcases and the context were analysed through the conceptual lens of the elaborated framework of Rukanova et al. (2020). The analysis of the collected data was done in several steps. Once an interview was performed it was transcribed and analysed. This analysis was done through coding, using the NVivo software. First, the interviews were analysed using *semi-open coding*. Whereas open coding is a fully open-minded process, semi-open coding is a more abductive approach in which some of the theoretical concepts have been used as coding devices, but still leaves possibilities for open coding. A preliminary coding scheme was drafted to guide the first steps of coding. During this first step the interviews were broken down by assigning relevant codes (i.e. labels) to certain quotes. This first step differentiated between quotes and identified and labelled concepts and insights that pertained to the conceptual lens (Wolfswinkel, Furtmueller & Wilderom, 2013; Bryman, 2016; Charmaz, 2006). During this first step, the preliminary coding scheme has been complemented with newfound codes. Second, the codes from the preliminary coding scheme were revisited to identify key categories and subcategories in the *axial coding* process. In this process, the interrelations between the categories that flow from the semi-open coding process were identified. Third, the categories that were identified in the second step were then refined through *selective coding*. In this process the relations between the main categories that emerged during the axial coding process were explored (Bryman, 2016; Wolfswinkel et al., 2013), which eventually shaped the main findings of the interviews.

Simultaneously with the coding process case documentation was analysed. Relevant documentation was subjected to a content analysis, which aimed to derive relevant concepts and relationships from internal case documentation (Bryman, 2016). The content analysis was performed by highlighting certain passages that may indicate or explain the key concepts and their relationships. The internal case documentation, however, was not coded using NVivo due to confidentiality requirements from CBS, which prohibited the researcher to analyse the internal case documentation outside the secured digital CBS environment. Instead, insights from these internal case documents were

highlighted and coded using Microsoft Word's comment function. Afterwards, these comments were grouped to identify patterns, which was a similar process to the coding of the interviews.



Figure 4: Excerpt of the coding process in NVivo, with on the right the applied codes.

The outcomes of the coding process and the content analysis were the input for the contextual analysis and the within-case analysis. Within-case analysis “allows the unique patterns of each case to emerge before investigators push to generalise patterns across cases” (Eisenhardt, 1989, p. 540). This analysis was performed by writing a detailed case summary for each of the cases, which was central to the generation of insight (Eisenhardt, 1989). The case summaries reflected findings and patterns. Furthermore, the case summaries reflected on the differences between the different data sources (interviews vs documents), i.e. what people say and what is written.

The within-case analyses were then used for a cross-case comparison. Cross-case comparison improved the chances of accurate and reliable theory with close fit to the data (Eisenhardt, 1989). This analysis was performed by listing similarities and differences between each case and their relationship with the literature. According to Eisenhardt (1989), this strategy led to a more sophisticated understanding of the concepts at hand. From this cross-case comparison, general insights were made up. Based on these insights the research question was answered.

3.3 Handling of Confidential Information

The data that were collected and analysed during this research were treated in a confidential manner due to the confidentiality requirements of CBS. To ensure a confidential handling of the data several measures were taken. First of all, the data that were collected from both the interviews and the case documents were stored in a password-protected personal computer. The same applies to interview recordings and transcriptions. Second, to ensure respondent anonymity, the names of interviewees were replaced by case related tags. Besides, the names of the businesses were anonymised in the case summaries and cross-case comparison as well and were referred to by the tag of their corresponding respondent. Lastly, regular feedback sessions at CBS ensured that no sensitive information was included in the final version of the thesis. This information was regarded as sensitive, as it included information on the relationship between CBS and its partners. Furthermore, the data could include commercially sensitive information. Incorrect handling of this information could have harmed the relationship between CBS and its private partners. Additionally, before publication of the thesis into the university's thesis archive, CBS had the chance to review it as a final check. Also, an agreement was made to first

perform the thesis presentation at CBS before the public presentation at the university to ensure that no sensitive information is included.

3.4 Research Quality

In this interpretive research, the researcher adopted the role of an ‘outside observer’, as described by Walsham (1995). As the partnerships in the selected subcases were already finished and were studied in a retrospective manner, the role of the outside observer came naturally. This role allowed the researcher to observe the subcases from a distance. However, it cannot be ruled out that the researcher was subject to influences of CBS, as regular feedback sessions with CBS were scheduled. Besides, regular feedback sessions with the university supervisor served as a control mechanism to safeguard this independent judgement.

The reliability of this research was secured in the following way. The constant comparison of the data throughout the different steps of the analysis allowed for a comprehensive check on the consistency of the data. For instance, the coding process (of interviews and case documents) encompassed three cycles of analysis in which the data was checked and analysed. After each step a comparison was made between cases to ensure inter-case consistency of coding. This constant review of earlier steps in the analysis improved the reliability of this research.

To establish this study’s validity data triangulation was used. This study uses two different sources from which data were collected: interviews and case documentation. Comparing the findings that arose from both data sources improved the validity of this research (Goffin et al., 2019). In this case, this was done in the case summaries. Furthermore, by studying two different subcases a diversity of outcomes was expected, which reduced the chances of bias and increased the chance of valid results. A limitation of the research design was that the findings were placed in a case specific context. This means that the findings are not one-on-one generalisable to other contexts. Nevertheless, other government agencies were expected to be able to learn from the findings due to the common differences of interest that can be found in public-private partnerships in general.

4. Results

In this chapter the findings of this study are presented. First, the findings of the contextual analysis are introduced. Second, the findings of the main case are presented. Here, a short and more general analysis on CBS’ activities regarding the use of PHD to make statistics is included. Afterwards, the findings of the two subcases are presented in the within-case analyses.

4.1. Contextual Analysis

4.1.1. Public and Policy related Factors

The findings of the interviews with CBS personnel (respondents from Table 2) show that legal factors are the main public and policy related factor in voluntary B2G data sharing partnerships. CBS has to take several legal frameworks and regulations into account when committing to any data sharing partnerships (CBS-1; CBS-2; CBS-3; CBS-4; CBS-5). These legal frameworks and regulations influence the extent to which voluntary B2G data sharing partnerships between CBS and private organisations can be formed and are often considered to be one of the main barriers (CBS-1; CBS-2; CBS-3; CBS-4; CBS-5). Below, the identified legislative frameworks and regulations that are relevant in the context of this study and their implications are presented. Here, a distinction is made between national and European Union (EU) legislation. A more general description of these frameworks and regulations in light of this research can be found in Appendix D.

On a national level, the interviews suggest that legislation relevant to voluntary B2G data sharing initiatives between CBS and private organisations mostly create barriers to their formation. The CBS Act, for instance, is considered to be a prominent legislation in these cases (CBS-1; CBS-2). It describes CBS' legal duty and ways in which data can be lawfully collected and what types of data can be collected (CBS Act, 2003). Every request of data has to be checked with the CBS Act (CBS-2; CBS-D1). Additionally, due to the cross-sector nature of voluntary B2G data sharing partnerships, CBS has to be cautious to not stir the market (CBS-2; CBS-4). To prevent this, CBS has been subjected to the Ministerial Regulation (MR), which states that CBS can create and deliver additional statistics for private sector organisations only in exceptional situations (CBS, 2020b; CBS-4). Similarly, the Market and Government decision (BMO) prevents unfair competition created by the presence of government organisations on the market (CBS-4; Market and Government Decision, 2012). These regulations have implications for voluntary B2G data sharing initiatives, as they set boundaries to what extent CBS can collaborate with private parties and what CBS can deliver to private organisations in return (CBS-1; CBS-2).

Another relevant legislative framework that was identified in the interviews, which is implemented at EU level, is the general data protection regulation (GDPR). The GDPR ensures a safe handling of personal data during processing and transfer between different entities (GDPR, 2018). This regulation has great implications on voluntary B2G data partnerships and is often regarded as a barrier (CBS-5). For instance, the willingness of private organisations to share their data might be influenced by the GDPR, as they are afraid of the consequences of a data leak or the perception of their clients on the transfer of their data (CBS-5). Furthermore, two legislative frameworks are identified that can be of interest for voluntary B2G data sharing initiatives in the near future: the Data Governance Act (DGA) and the Data Act (DA) (CBS-3). These two legal frameworks should create an innovative environment in which it is easier to share data between different sectors (DGA, 2022; DA, 2022; CBS-3). The DGA has two aims: increase the availability of data and facilitate data sharing across EU countries and sectors (EC, 2022; DGA, 2022). The DA elaborates on the DGA by specifying the rules on accessing PHD (DA, 2022). The current draft of the DA does not in essence provide for cases of voluntary B2G data sharing and privacy is expected to remain an issue (CBS-3). However, as the DA is still drafted, the exact implications for voluntary B2G data sharing are not clear yet.

4.1.2. Technological Factors

The main technological factor that has been identified in the interviews and which influences voluntary B2G data sharing initiatives between CBS and private organisations is the presence of a digital infrastructure. CBS-1 mentions that a lack of digital infrastructure at the part of private organisations poses a barrier to B2G data sharing. An example of a lacking digital infrastructure is that systems of private organisations are not always able to adequately share large datasets, which hinders the flow of data from private organisations to CBS (CBS-1). A promising technological development that can influence voluntary B2G data sharing is the realisation of an automated transfer of data from private data holders to CBS (CBS-2; CBS-5). Here, CBS can extract the data from the databases of private organisations itself. This can increase the efficiency of data collection and reduce the burden that sharing data poses on private organisations (CBS-2; CBS-5). However, this technological development is dependent on the barrier that a lacking digital infrastructure poses.

4.2. Main case Analysis

The use of PHD at CBS has gained more attention internally in recent years. In fact, collaborations with public and private parties to address societal issues have recently been made a strategic priority by CBS (CBS, 2020b). CBS' core activities revolve around the collection of data, with the goal to publish a set of compulsory statistics that inform society about its current state (CBS-1; CBS-2; CBS-5). Statistics that are compulsory are hereafter referred to as regular statistics and non-compulsory statistics as additional statistics. Internally CBS is currently developing a guideline on how to approach such partnerships to gain access to new PHD (CBS-D1;). According to CBS-D1, the process of gaining access to PHD involves a variety of different internal stakeholders. Therefore, a CBS-wide guideline to the process of gaining access to new data sources is necessary to, for instance, make sure that legal boundaries are not transcended (CBS-D1).

Previously, the data on which regular statistics are based were gathered by conducting surveys in sample groups (CBS-2). CBS sees an increasing role for PHD to produce more comprehensive, accurate, granular, and timely statistics (CBS-D1; CBS-D2). Moreover, PHD plays a role in creating additional statistics. CBS is using PHD to create new statistics that can complement the already existing statistics (CBS-D5). These additional statistics can contribute to a more comprehensive view on society (CBS-5; CBS-D1; CBS-D2), which can indirectly contribute to an adequate response to social challenges by the government (CBS-1; CBS-5). The production of additional statistics is largely dependent on shared PHD (CBS-4; CBS-5; CBS-D1; CBS-D2). As CBS cannot force private organisations to share all their data due to legislative measures (see Chapter 4.1.1.), it is therefore dependent on the willingness of organisations to share their data on a voluntary basis.

CBS-1 notes that the willingness of private organisations to voluntarily share data depends on how the data is generated. More specifically, if an organisation generates data as part of a business case they are less likely to share it. If the data is bycatch, they are more likely to share it as long as there is no business case. Whether an organisation pursues such interests plays an important role in their willingness to voluntarily share data. It must be noted that this observation is not as black and white as stated, as the willingness to share data depends on other factors as well. Therefore, CBS tries to convince the private organisations that sharing data has benefits for them as well and hopes that they proceed to share their data (CBS-1; CBS-2; CBS-5). Also, CBS-5 states that the willingness to share data is greater when a collective interest can be defined.

Payments to obtain data are outside the scope of this research, as a voluntary transfer of data is key to the studied B2G data sharing partnerships. This does not mean, however, that payment necessarily impedes the voluntary nature of B2G data sharing arrangements, as involuntary data sharing would suggest a regulatory obligation. In essence, CBS is reluctant to pay private organisations for their data because it is a complicated matter, due to both legal and ethical considerations. As a government organisation, CBS is bound to policy on data payments (e.g. CBS-D5). Potential payments are extensively checked to see whether they are in accordance with CBS' policy on data payments and relevant legislation (MR and BMO).

4.2.1. Subcase I: Dashboard rapid indicators Freight Transport

Case overview. The voluntary B2G data sharing partnership that is the DFT is considered to be successful by CBS (DFT-C). Previously, CBS published statistics related to freight transportation in The Netherlands on a quarterly basis, which is required by Eurostat (European statistical office). As a result of this partnership, CBS now receives this data on a weekly basis (DFT-C). The weekly statistics that are published on the dashboard were used by policy makers during the COVID-19 pandemic to gain insights into the situation in the freight transportation sector (DFT-C). Since its start the partnership

has been prolonged several times and it is expected that it will continue to exist, as the added value of its outcomes is recognized by both CBS and its partners (DFT-C; DFT-P2; DFT-P3).

At the beginning of the partnership, it can be argued that CBS and the private organisations pursued a mixed interest in this partnership (DFT-C; DFT-P1; DFT-P2; DFT-P3). Here, the self-interests of the private organisations did not lead to major differences and no major diverging interests had to be aligned (DFT-C). Furthermore, as the interviewed private organisations have a public history and still pursue public values, there was a common interest in this data sharing partnership: publishing statistics to inform society (DFT-C; DFT-P1; DFT-P2; DFT-P3).

The collected data suggests that this partnership has been mutually beneficial for CBS and at least two of the three interviewed private organisations. These private organisations gained benefits that were in line with their interests (DFT-P2; DFT-P3). DFT-P1's organisation seemed to not have been able to reap significant benefits from this partnership, as its organisation does not have a well-developed data culture (DFT-P1). Also, based on the findings it can be argued that the provision of rewards is an effective way to create a more structural data sharing partnership (DFT-C; DFT-P2).

Interests. CBS' primary interest in this partnership was to develop more timely, accurate and comprehensive statistics on freight transport in The Netherlands (DFT-C). This interest was sparked by the societal challenges that arose as a result of the COVID-19 pandemic in early 2020 (DFT-C; CBS, 2022). As CBS' purpose with these statistics was to inform the public (DFT-C), this interest can be regarded as a societal interest following the typology of Selsky & Parker (2010). The results of this partnership were expected to contribute to a better government response to the COVID-19 pandemic and the social issues that arise from it.

The respondents in this case indicate that their companies have long lasting relationships with CBS and they already share freight transport data every quarter or a compulsory basis (DFT-P1; DFT-P2; DFT-P3). When they were contacted by CBS with the question if they could share their data on a weekly basis, they did so on a voluntary basis (DFT-C; DFT-P1; DFT-P2). The primary interest of the interviewed port companies in this partnership is serving the public interest (Table 5). The representatives that have been interviewed in this subcase all state that their companies strive to contribute to the public value creation by sharing their data with CBS. It must be noted, however, that these companies have a public history. This implies that the public values that once were key to their operations are still present, albeit subordinate to their commercial values in some cases. This is demonstrated by DFT-P1 and DFT-P3, who state:

“We have been privatised for a reason. We have been privatised to work with and approach clients in a commercial way. In addition, we have a public task to fulfil. (...) But public task related operations only cover a small part of the organisation. (...) We have an agreement [with CBS] to deliver this data as it is in the Dutch common interest. Well, then we participate if it is not too much trouble.” - (DFT-P1)

“Traditionally we were a public organisation, so I think we still have some remains from those days embedded in our organisation, which I think is a good thing. Although we have been privatised, we still pursue a public function. It is, you just want to be of service to other organisations.” - (DFT-P3)

These quotes indicate that the private organisations in this partnership pursue a societal interest by voluntarily sharing their data with CBS. This societal interest is based on their history as a public organisation. As the primary interests of CBS and the interviewed organisations are in line as the need to share data was recognized by all parties, they did not have to be aligned at the start of this partnership.

Both CBS and the interviewed organisations pursued self-interests in this partnership as well. On CBS' side the identified self-interests related to the realisation of improvements of existing statistical processes through this specific partnership. In this partnership, CBS sought to enhance its data and produce better statistics with the shared PHD (DFT-C). In this case 'better' refers to more comprehensive, accurate, granular, and timely statistics that are published more frequently (CBS-D1; CBS-D2). DFT-C also indicates that this interest is part of a set of more general CBS-wide objectives focused on improving statistics. Another self-interest in this partnership is the improvement of data collection methods (DFT-C;). Here, CBS hoped to gain more structural access to the databases of the data suppliers and extract the required data itself. If this access is provided voluntarily this could alleviate the survey burden that legal data sharing requirements pose on the data suppliers. Eventually, such a construction was realised with DFT-P3 (DFT-P3; DFT-C) and CBS is currently working towards a similar construction with other partners (DFT-C).

The main self-interests of the interviewed private organisations that have been identified in the DFT relate to gaining insights from data. As can be seen in Table 5 all respondents indicate that gaining insights from data into the performance of other port companies is a motive for them to collaborate with CSB. This interests was stated by DFT-P2 as follows:

“Besides that, well, additionally CBS data allows us to gain insights about our competitors. But that is actually, well, secondary. But it is nice to see how our own performance relates to that of our competitors.” - (DFT-P2)

Insights on the performance of other port companies can be derived from the statistics that are published in the DFT, which are based on aggregated data and do not disclose information on the performance of individual port companies. Disclosing the performance of individuals and individual companies, so-called micro-data, is prohibited through the CBS Act and the GDPR (CBS, 2003; GDPR, 2018). These statistics do, however, provide a benchmark for private organisations towards the aggregated data. Another example of a statistic that provides market insights is the consumer price index (CPI), which is frequently used by supermarkets to benchmark their prices (CBS-1; CBS-2).

Another insight that can be gained from the data are insights in the situation in the port area. DFT-P2 states that data is gathered from the different terminals in its port area, which is aggregated and shared with CBS. This data can disclose interesting details on freight movements within the own port area. Based on this data, ports can adapt to and respond to developments in their port area (DFT-P2). This is considered DFT-P2's primary self-interest:

“(…) We have, it does give us insights in our own port, yes. Because we receive data from CBS on our own port, which we simply do not have. So that is, well, it might be the most important [self-interest]” - (DFT-P2)

According to DFT-P2, the data it receives from CBS is already rich, but DFT-P2 states that it wishes to receive more detailed data. CBS is bound to certain legal frameworks, such as the GDPR and CBS Act that prohibit them from sharing such data. Here, a diverging interest appears to exist. Aligning these interests is almost impossible, given that the legislation provides no room for margin. This diverging interest, however, did not have any negative consequences for the overall partnership, as DFT-P2 still shared its data.

In the same way, DFT-P1 states that participating in a data sharing collaboration with CBS, such as the dashboard freight transport, is interesting for its organisation as long as it is in line with the public goal that once constituted the establishment of its organisation and which is still important today: realising local economic development. In light of this public goal, which today is realised with private

resources, insights from data and statistics can guide local economic development, which DFT-P1 mentions as an interest in data sharing partnerships. As DFT-P1 received this data through the DFT, this interest was in line with the goals of the partnership.

From the findings on the interests of the organisations that were involved, it can be argued that all organisations, following Selsky & Parker's (2010) typology, pursued a mixed-interest in this partnership. To all organisations the need to share this data in the context of COVID-19 was clear, as well as the DFT's contribution to addressing this crisis. This is argued to be the primary interest of the organisations in the DFT. Furthermore, the organisations involved pursued self-interests in the partnership around the DFT. Whereas CBS hoped to improve its statistics and data collection, the private organisations hoped to gain insights from data. This mix of social and self-interests allows for the conclusion that these organisations pursued a mixed-interest in the DFT.

Table 5: Organisations' interests in the dashboard freight transport.

Concepts		CBS	Private organisation:	DFT-P1	DFT-P2	DFT-P3
Mixed interest	Self-interest	<ul style="list-style-type: none"> - Producing better statistics by gaining access to PHD (DFT-C) - Reducing survey burden for private parties by improving data collection methods (DFT-C) 	<ul style="list-style-type: none"> - Gaining insights from data into the performance of competing ports - Gaining insights from data into the situation in the port area - Gaining insights from data to guide economic development in the port area 	X	X	X
	Societal interest	Providing timely statistics during the COVID-19 pandemic to address societal challenges (DFT-C)	- Serving the public interest in view of their public history	X	X	X

Alignment of interests. As the organisations involved in the partnership recognized the need to publish the DFT, no major differences in perceptions and interests had to be aligned. As a result, the partnership around the DFT was formed in six weeks, which is exceptional for such partnerships (DFT-C). The fact that the port companies that have been interviewed already had long lasting partnerships with CBS was an important factor for them to engage in this collaboration (DFT-P1; DFT-P2; DFT-P3). The long lasting partnerships that these companies have with CBS stem from their history as a public organisation (DFT-P1; DFT-P2; DFT-P3). These port companies were privatised around 2010. It is suggested that this accelerated the formation of the partnership as trust was already established (DFT-C). DFT-P1 and DFT-P3 indicate this by stating the following:

“And if data can be collected by a neutral party and edited in such a way that no business sensitive information is shared (...), then there is trust in CBS as a facilitating party. And this trust is not only present within our organisation, but also within other data suppliers, I believe. With that I believe that it increases the chances that a broad group of businesses are willing to share their data.” - (DFT-P1)

“Well, I do not think that they clashed [public and private interests]. I think that it was very clear that CBS would only use high-level data to publish the statistics and that the data we shared would be edited

to that level. So we actually knew upfront that our data would not be traceable to one or a couple of companies in the port. And yes, that is good enough for us. So there was not really a clash. It was just a mutual agreement.” - (DFT-P3)

From these statements it can also be derived that an adequate handling of the shared data is important to private organisations. DFT-P2 adds that they perceive less risks in sharing data with CBS due to their high data standards. DFT-C confirms the importance of safe data processing and perceives the safeguarding of privacy as one of the main issues of private organisations. Based on the expressed confidence in CBS’ ways of data processing, no alignment was necessary on this point.

Although there were not many interests that had to be aligned in this case, some difficulties in the formation of this partnership did arise. For instance, DFT-P2 mentioned that this partnership experienced some technical difficulties. These difficulties relate to different data formats that are used by DFT-P2 and CBS (DFT-P2). To overcome these difficulties, CBS and DFT-P2 stayed in close contact to resolve these issues (Table 6) (DFT-P2). According to DFT-P2, which must be noted, these difficulties were more in the details than that they were major issues. Here, it is suggested that maintaining intensive contact with the partners involved helps to build a relationship (DFT-P2), which is important in partnerships to overcome issues (CBS-D1).

Table 6: Mechanisms to find linked interests identified in the dashboard freight transport.

Concepts	CBS	Private organisation:	<i>DFT -P1</i>	<i>DFT -P2</i>	<i>DFT -P3</i>
Finding linked interests	Identifying partner’s goals by engaging in a conversation on how to shape collaboration (DFT-C)	- Identifying partners’ needs by engaging in a conversation on how to shape collaboration	-	X	X
	Identifying partners’ needs by engaging in a conversation on how to shape collaboration (DFT-C) - Maintaining intensive contact with partners to overcome difficulties and jointly shape collaboration (DFT-C)	- Maintaining intensive contact with CBS to overcome difficulties and jointly shape collaboration	-	X	-

To understand the perception of the private organisations of the partnership around the DFT, CBS tried to explore their goals and needs in early conversations (DFT-C; DFT-P2; DFT-P3). This was also recognized by DFT-P3, who stated the following:

“They did create goodwill. We had a conversation lately, in which [DFT-C] was involved as well, about what CBS could provide to us, things that cannot be found directly on their website or in Statline [CBS’ publicly available statistical database]. So yes, there was some sort of interaction.” - (DFT-P3)

Related to this, DFT-C states that the partners were also actively involved in the development of the collaboration. In this case, exploring their needs and goals has been a way to gain input. For instance, DFT-C mentioned that the partners involved liked to see more statistics to be broken down by region. Also, the partners had a list with points of improvements ready. Not all of these needs could be fulfilled right away, as trade-offs had to be made due to a lack of capacity and financial resources (DFT-C).

These trade-offs, however, did not affect the DFT, as the need to publish the main statistics was recognized.

According to DFT-C, no incentives have been provided to the private organisations in the early stages of the partnership for alignment purposes. DFT-C mentioned that incentives were not off the table and were discussed in some cases, but the primary focus was on creating and publishing statistics as soon as possible. This worked as there was a common interest among the parties involved (DFT-C).

During the course of the partnership, CBS eventually provided incentives to the interviewed private organisations based on data reciprocity. For instance, all private respondents in this case mentioned that CBS provided them with findings based on their data (Table 7). These findings are often publicly available and can be found in the DFT. Furthermore, CBS shared more specific aggregated data with DFT-P2 and DFT-P3 (DFT-C; DFT-P2; DFT-P3). DFT-P1's organisation did not react to such offers, as the organisation lacked the capacity to process and integrate this data due to a less developed data culture within the organisation (DFT-P1). The shared aggregated data could, for instance, disclose insights that the publicly available findings of the DFT did not disclose, but that were of added value to the receiver (DFT-P2). Regarding this, DFT-P2 states:

“(…), I pose that question to CBS sometimes [whether CBS can return more specific data], and they then handle it very considerately to see what is within the legal boundaries, what is not, what is our maximum? They do sometimes seek the boundaries of what they can deliver, but they have to adhere to certain legislation and that are the considerations they have to make.” - (DFT-P2)

This quote shows the practical implications of the legal frameworks that CBS is bound to in the provision of incentives. Although it is suggested that CBS stays within the boundaries, they tried to meet the needs of the interviewed partners in this case, which was not always possible (DFT-C). Here, it must also be noted that CBS does not share micro data, besides under strict requirements and in a secure environment (CBS, N.D.).

Besides incentivising, the data suggests that CBS rewarded private partners in this case as well. As mentioned before, DFT-P2 has a long lasting relationship with CBS outside of the DFT. During this relationship, CBS provided DFT-P2's organisation of customised statistics based on their data, for which they paid. At the same time, DFT-P2's organisation shares data with CBS both on a compulsory and a voluntary basis, for which it makes costs as well (DFT-P2). Recently, CBS and DFT-P2's organisation made an agreement to settle the costs. Regarding this, DFT-P2 stated:

“(…), previously, there were always talks about the costs that CBS has to make. You have to pay for each hour that they make, but in the agreement that we made we said: well, we spend a lot of hours to make sure we can deliver our data in a good way. (...) So we eliminated these costs from the agreement. We now do a lot of things with CBS on a quid pro quo basis.” - (DFT-P2)

This reward reduced the costs of data sharing for DFT-P2 significantly (DFT-P2). Furthermore, the agreement to work quid pro quo gives a more structural character to the partnership.

Besides the incentives that have been provided in this case, DFT-P1 and DFT-C mentioned two incentives that they perceive to be stimulative for future partnerships (Table 7). DFT-P1 mentions that the development of a well-developed business case for the shared data could be an incentive for its organisation to collaborate with CBS on a more structural basis. Here, DFT-P1 also notes that creating a business case is already quite a task, but perceives it as a stimulant for future partnerships. Furthermore, DFT-C perceives the prospect of a reduced survey burden for private parties as a suitable incentive for future voluntary B2G data sharing partnerships. This reduced survey burden can be achieved through the joint development of an automated data sharing infrastructure. Although CBS is

working to realise this in collaboration with private organisations that are involved in the DFT, this has not been identified in the interviews as a provided incentive.

Table 7: Indirect incentives/rewards identified in the dashboard freight transport.

Concepts		CBS	Private organisation:	DFT-P1	DFT-P2	DFT-P3
Indirect incentives	Data reciprocity	<ul style="list-style-type: none"> - CBS returning findings to private partners based on the data they shared (DFT-C) - CBS sharing specific data relevant to private partners (DFT-C) 	<ul style="list-style-type: none"> - CBS returning findings to private partners based on the data they shared - CBS sharing specific data relevant to private partners 	X	X	X
	Cost reduction for data holders	Not identified	'Quid pro quo' data sharing agreement: cost settlement	-	X	-

Benefits and value creation. The results of this partnership were mostly in line with the expected benefits, as can be seen when comparing Table 5 and Table 8. All interviewed parties in this case indicate that the publication of more timely statistics to gain insights in the COVID-19 pandemic is a benefit that arises from the DFT (DFT-C; DFT-P1; DFT-P2; DFT-P3). The fact that these organisations perceive this as a benefit that they themselves gained from this partnership is suggested to stem from a common interest.

Furthermore, several insights from data were actually gained by DFT-P2 and DFT-P3 (Table 8). DFT-P2 and DFT-P3 both indicate that they gained insights in the performance of competing ports and insights in their own organisational performance. These insights were based on the statistics that were published in the DFT (DFT-C). Furthermore, DFT-P2 indicates that they also gained insights in the situation in its own port area. Here, insights are, for example, enriched data on incoming and outgoing (road) transportation (DFT-2). Also, as DFT-P2's organisation works data-driven and because of its data sharing agreement with CBS, DFT-P2 indicates that they gained additional data which allows them to enrich their own data. Here, transferred resource value is created as DFT-P2 can use this data to perform analyses they could not have done without that additional data.

However, DFT-P1 indicates that it did not gain such benefits. DFT-P1 states in the interviews that their organisation perceived little benefit in general for themselves in voluntarily sharing data with CBS. This confirms that the benefits of voluntary B2G data sharing are not always clear to private organisations. For instance, as an answer to the question to whether their willingness to voluntarily share data would increase if there are clear benefits, DFT-P1 states:

"I think that in principle we would be willing to, but I think that in practice the benefits will be little. The chance that you can realise an important benefit, which is in line with our goals, is deemed very small in advance." (DFT-P1).

From this statement it becomes clear that DFT-P1's organisation seeks benefits that directly influence their goals. Table 5 shows that DFT-P1 has an interest in gaining insights in the performance of competing ports, which is not represented as a gained benefit in Table 8. As mentioned before, DFT-

P1's organisation does not have a well-developed data culture, with little capacity to process, for instance, returned data (DFT-P1). Therefore, such benefits might not have been reaped. Contrary to the statement of DFT-P1, DFT-P2 is aware of the benefits of voluntarily sharing data with CBS in the context of the DFT. DFT-P2's organisation has a more data-driven business, which is led by a team that processes and analyses port data. Therefore, the benefits for themselves were already clear as they valued CBS' statistics and returned data. This is confirmed by DFT-P2 in the following statement:

“(…), I think we both benefit from this partnership. But they do need our data for several of their own processes. For us it is nice and it yields several benefits as well., so then a deal is easily made.” - (DFT-P2)

Although it is not a benefit gained from this partnership, it is noteworthy that DFT-P2 and DFT-P3 do not see an improvement of their company image as a benefit that they could gain from voluntarily sharing their data with CBS (Table 8). This is in contrast to CBS' belief that a company image can be improved through such partnerships (CBS-D3). Both companies state that in light of their history of being a public organisation and the public values that are still present in their organisations, they do not believe that they can create associational value through this partnership. They do, however, state that they believe this might be an interesting benefit for 'hyper commercial' companies (DFT-P2; DFT-P3).

On CBS's side, interactional value has been created through the development of new methodology. Regarding this, DFT-C stated the following:

“We did really develop a new methodology. New methodology to make a solid comparison [on a weekly basis instead of a quarterly basis]. So we had very good people that were able to develop this. I think that is one of the more important things for us.” - (DFT-C)

The development of this new methodology has been realised with contribution of the partners involved in the DFT (DFT-C). This methodology allowed CBS to make a more accurate comparison on a weekly basis, compared to their previous methodology that allowed for a quarterly comparison of data. As this methodology can be used by CBS to create other statistics as well, this is regarded as an important benefit to them. The fact that CBS involved its partners in this process is also something that was appreciated by them (DFT-C). CBS' open attitude might also have been a driver of this partnership, which DFT-P2 confirms by stating that CBS is always willing to think along.

Based on the findings it can be argued that the DFT has been mutually beneficial for at least two of the private parties that have been interviewed. DFT-P2 and DFT-P3 gained significant benefits that are in line with their interests. To reap the benefits of this partnership, it can be argued that it is a pro to have a well-developed data culture within the organisation, which is not present within DFT-P1's organisation. Furthermore, the findings show that a more structural data sharing agreement with private parties can be reached through the provision of incentives, which is the case in the arrangement between CBS and DFT-C (DFT-C; DFT-P2).

Table 8: Gained benefits and value creation in the dashboard freight transport.

Concept		CBS	Private organisation:	DFT -P1	DFT -P2	DFT -P3
CVC	Associational value	Not identified	Not identified	-	-	-
	Transferred resource value	- More frequent publication of statistics, which gives more timely insights during COVID-19 pandemic (DFT-C)	- More frequent publication of statistics, which gives more timely insights during COVID-19 pandemic	X	X	X
			- Insights from data in performance of other ports	-	X	X
			Insights from data in organisational performance	-	X	X
			Insights from data in the situation in the port area	-	X	-
			Integration of additional CBS data to enrich private data	-	X	-
	Interactional value	- Development of new methodology to make more accurate comparisons between time periods (DFT-C)	Not identified	-	-	-
	Synergistic value	Not identified	Not identified	-	-	-

4.2.2. Subcase II: Payment Service Providers

Case overview. In the PSP-case, CBS had initial talks with several PSPs, including the two that eventually shared their data with CBS. The PSPs that did not share their data with CBS had different reasons as to why they were not willing to do so. First of all, as these PSPs are often publicly traded companies they believe that releasing their data is not without risk. For instance, from the released data on turnover development of the clients of a PSP, the turnover development of the PSP in question can also be derived. This is then considered stock-sensitive information (PSP-C). Therefore, releasing this data only happens after the quarterly figures are published. Thus, in the PSP-case, in which weekly data is required in the context of the COVID-19 pandemic, this data is not very relevant (PSP-C). Second, the PSPs that were approached and declined to share data mentioned that they did not have the time to arrange data sharing amidst the hectic period they were currently situated in due to the COVID-19 pandemic. During this period the PSPs saw an increase in clients and decided to focus on facilitating them (PSP-C). Third, according to PSP-C, it was not always clear to the PSPs what they could benefit from voluntarily sharing their data in this context. At the time this was not fully clear to CBS either. As a result, these PSPs dropped out. Afterwards, CBS developed CBS-D3, which explores the benefits for private organisations in data sharing collaborations with CBS.

As the collaboration with the PSPs did not lead to a publication of statistics it can be argued that it did not fulfil its potential to create its attributed social value. It could also be argued that the lessons that CBS learned from this partnership are still valuable and can contribute to the creation of

social value in future partnerships. However, this is an indirect contribution that cannot only be attributed to this partnership. Despite this, the partnership has been mutually beneficial for CBS and PSP-P2's organisation, as both parties gained significant benefits from this partnership. As PSP-P1's organisation did not gain significant benefits, it can be argued that this partnership has not been mutually beneficial for this private organisation.

Interests. CBS' primary interest in this partnership was to create timely and accurate statistics on the development of payments during the COVID-19 pandemic. Furthermore, CBS pursued several self-interests as well. The self-interests that have been identified in this case relate to improving the process of creating statistics. As part of a more CBS-wide strategy to make the data collection for its statistics more efficient and to innovate (CBS-D2), CBS had an interest in gaining practical experience in the development of a more continuous and automated data collection process (PSP-C). This data collection process entails direct access to the databases of the private organisations that it partners with, out of which CBS can extract relevant data itself. Doing so could give data sharing partnerships a more structural character, as private organisations have to spend less time and money to deliver the data (PSP-C). Related to this, CBS hoped to develop new methodologies to analyse and process data through this partnership (PSP-C). An example of this would be the coupling of several data sources and already available statistics, in which the partnership with the PSPs could provide useful insights (PSP-C).

Within the partnership between CBS and the payment service providers, the businesses involved seem to pursue different self-interests. These diverging interests of the private parties did affect the partnership, as they were still sufficiently aligned with CBS. Table 9 suggests that the identified interests of PSP-P1 are more socially oriented, whereas PSP-P2 seems to pursue a more balanced mix between social and self-interests. Both interviewed private organisations take an interest in conforming to their shareholders (PSP-P1; PSP-P2). As publicly traded companies, PSP-P1 and PSP-P2 have to address pressing topics and issues that shareholders bring to the table. According to PSP-C, shareholder and stakeholder responsibilities were one of the reasons for other private organisations to drop out from this partnership.

Besides conforming to shareholders, PSP-P2 pursues two other self-interests in this partnership. From this partnership, PSP-P2 hopes to gain insights from data into the development of industries that are relevant to their business (PSP-P2). About this interest, PSP-P2 said to following:

"I think that combining our sources with those of CBS gives us very relevant information to, well, gain actual insights in different industries. What is going on there, but also to look into future developments. So I think that is a very important one." - (PSP-P2)

Insights into these developments can give PSP-P2 a more accurate and timely idea of how the company could adapt or where opportunities lay during the COVID-19 pandemic. These insights could have been gained through the aggregated statistics that CBS intended to publish.

Furthermore, voluntarily sharing data with CBS was perceived by PSP-P2 as a way to publicly bind itself to socially pressing themes (PSP-P2). According to PSP-P2, this would be an appropriate means for gaining publicity in the long term::

"And the second is also just publicity in the long term. If we can collaborate with CBS we want to jointly publish with them. It helps us to connect our name to CBS, among other things. (...) You want to radiate authority and connect yourself to certain themes for decision makers so to say, yes." (PSP-P2)

Through this publicity, PSP-P2 hoped to become more involved in the decision making processes of policy makers. Besides, binding the company name to certain socially pressing themes could also have

a broader positive effect on the way consumers think about the company and thus improving its brand image (PSP-P2).

The societal interests that both interviewed private organisations pursue in this partnership are less different. For both businesses, contributing to society by voluntarily sharing their data with CBS is deemed as an important interest (CBS-D4). In light of the COVID-19 pandemic, these organisations wanted to contribute to information sharing in different ways, which is in line with CBS' primary interest in this partnership: producing statistics to inform society (Table 9) (PSP-C). Regarding its societal interest, PSP-P1 states the following:

“That it's our responsibility to the extent that we can share data to contribute to, like, knowledge making and meaning making with the public sector. So the team I roll up to is government relations. And so we partner with governments all the time.” - (PSP-P1)

From this quote it can be derived that PSP-P1's organisation acted out of a perceived responsibility towards the public sector. Here, PSP-P1 hopes to contribute to meaning making through the creation of knowledge based on the data they shared with CBS. Due to the fact that PSP-P1's organisation frequently partners up with governments, it can be argued that these practices are related to the organisation's sustainability strategy. This is also suggested by PSP-P1's statement that its organisation shares data with CBS as a sense of response to corporate social responsibility (CSR) (PSP-P1). Although not explicitly stated as a self-interest by PSP-P1, partnering up with public sector organisations could be a way to improve the company's image.

PSP-P2's societal interests in this partnership are somewhat similar to those of PSP-P1. Through this data sharing partnership with CBS, PSP-P2's organisation hopes to create social impact (PSP-P2). According to PSP-P2, the desire to do so is to a certain extent part of the company's CSR activities, but has not been the ultimate cause for voluntarily sharing data with CBS. Regarding this, PSP-P2 states the following:

“On the one hand it does play a role [CSR], but I do not think that it was a consideration to participate in this project. Although we have had conversations about the potential impact. You know, can we contribute? (...) CBS publishes and that helps government and semi-government organisations of course. So in that sense you could say we contributed. But I would lie if I say that it [CSR] is fully connected to our participation.” - (PSP-P2)

Furthermore, PSP-P2 has an interest in contributing to insights into the economic development during the COVID-19 pandemic. This interest is somewhat similar to PSP-P2's self-interest in gaining insights into the development of relevant industries during the COVID-19 pandemic (Table 9). Here, however, the focus is more on the social impact that these insights can make through policy (PSP-P2).

Based on the mix of self-interest and societal interest that both CBS and the interviewed organisations pursued in this partnership, it can be argued that they pursued a mixed interest according to Selsky & Parker's (2010) typology. It must be noted that PSP-P1's identified self-interest in this case are less prominently present than those of PSP-P2.

Table 9: Organisations' interests in the payment service providers case.

Concepts		CBS	Private parties	PSP-P1	PSP-P2
Mixed interest	Self-interest	<ul style="list-style-type: none"> - Gaining practical experience in the development of a more continuous and automated data collection process (PSP-C) - Developing new data analysing and/or processing methodologies by collaborating with PSPs (PSP-C) 	<ul style="list-style-type: none"> - Conforming to shareholders - Gaining insights from data into the development of industries relevant to PSPs during COVID-pandemic - Publicly binding to socially pressing themes to boost organisational image 	X - -	X X X
	Societal interest	<ul style="list-style-type: none"> - Informing society by producing statistics in light of the COVID-19 pandemic (PSP-C) 	<ul style="list-style-type: none"> - Contributing to knowledge making in the public sector by sharing data with CBS Sharing data with CBS as a sense of response to corporate responsibility Contributing to insights in how the COVID-pandemic affects the economy - Creating societal impact through data sharing with CBS 	X X - -	- - X X

Alignment of interests. Although there was a general willingness among the approached PSPs to share their data voluntarily (CBS-D4; PSP-C), several of them still dropped out due to the reasons mentioned in the case overview. Therefore, it can be argued that CBS did not succeed in aligning its interests with those of the private organisations that dropped out. The private organisations that eventually committed to sharing their data did so based on a common ground: either in the context of the COVID-19 crisis or another linked interest (PSP-C; PSP-P1; PSP-P2). For instance, PSP-P1 mentioned that a reason for its company to share data with CBS was a common interest in performing research into the COVID-19 pandemic. Besides, no major issues were identified in the partnership with the interviewed PSPs. In this case, safeguarding privacy was not a major issue, as PSP-P1 and PSP-P2 trusted CBS' high data standards (PSP-P1). Besides, only aggregated data was shared with CBS, which did not disclose any individual data (PSP-C). The fact that there was a common interest and no major issues made it easier to draft partnership agreements (PSP-C).

Although there were no major issues identified in the interviews, several alignment mechanisms were utilised in the negotiation phase (Table 10). First of all, PSP-C mentions that the needs of the partners were identified during this phase:

“But on the other hand, what is going on in that industry? What are they doing, what happens there and how do they look at their competitors? And well, can we help them? How do they look at potential clients? There might be a linked interest and we can do something for them. (...) Although these things can be quite vague, we can already explore potentially interesting things in which we can do something for them.” - (PSP-C)

This shows that in this case, in the early stages of the partnership, PSP-C already explored what stimuli/rewards would be potentially attractive to the private organisations involved. Furthermore, CBS tried to understand the industry in which the PSPs operate to better empathise with them (CBS-D4). This was used to find a common interest (PSP-C). To see whether the interests of PSP-P1 aligned with those of CBS, PSP-P1 mentioned that they sought for a common interest in the initial talks with CBS as well, which was found (PSP-P1).

Second, during the formation of the partnership between CBS and PSP-P1 and PSP-P2 several technical issues occurred. These technical issues delayed the progress, but were not major threats to the partnership. For example, different data structures between the private organisations made it difficult for CBS to put them together (PSP-P1; PSP-C). Such technical issues, but also non-technical issues, were overcome by maintaining intensive contact with the private organisations (PSP-C; PSP-P1; PSP-P2). This intensive contact allowed the parties involved to solve such issues timely (PSP-C). Here, an important driver was the specification of the data request (PSP-C). In this case, the data request was further specified for the PSPs to make it more concrete. As a result, the data structures that were shared were more aligned with those of CBS, making it easier to combine the data.

Third, to align the departments within CBS and PSP-P2's organisation that were concerned with this partnership, PSP-P2 mentions that mediation was necessary:

“(...) we needed green light from the different expertise and disciplines within our organisation. We have a component in our board, so to say, management team, legal, which are involved. Well, you have the data specialists and analysts. (...). [PSP-C] and I were a sort of mediator between these departments and you have to come closer together.” - (PSP-P1)

In practice this means that the project leaders from CBS and PSP-P1's organisation tried to align the departments internally, but also on an inter-organisational level. Here, the focus was to make sure that everyone agreed on the specifics of the data sharing partnership (PSP-P1). It can be argued that PSP-C and PSP-P1 succeeded in aligning these departments, as a partnership agreement was eventually drafted and data was shared (PSP-C; PSP-P1).

Table 10: Mechanisms to find linked interests identified in the payment service providers case.

Identified themes		CBS	Private organisations	PSP-P1	PSP-P2
Alignment mechanism	Finding linked interests	- Identifying partner's needs by engaging in a conversation on how to shape collaboration (PSP-C)	Identifying common interests in initial talks with CBS	X	-
		Maintaining intensive contact with PSPs to overcome difficulties and jointly shape collaboration (PSP-C)	- Maintaining intensive contact with CBS to overcome difficulties and jointly shape collaboration	-	X
		- Understanding the industry in which PSPs operate to better empathise with them (CBS-D4)	- Mediation between different private party and CBS departments by project leaders	-	X

According to PSP-P1, the provision of incentives by CBS was in this case not necessary. PSP-P1 saw sufficient linked interests to voluntarily share data with CBS and mentioned that incentives “were not

in the spirit of this partnership'' (PSP-P1). Although there were linked interests between CBS and PSP-P2 as well, CBS did provide rewards to PSP-P2's organisation (Table 11). Here, the term 'rewards' might be more suitable than incentives, as PSP-P2 was already willing to share data. The findings suggest that PSP-P2 showed more interest in rewards than PSP-P1, which might explain the difference in the rewards provided to the private organisations in the PSP-case.

The rewards that were provided in this case to align CBS and PSP-P1 are either based on data reciprocity or knowledge sharing (Table 11). A reciprocity based reward was the return of findings to private partners based on the data that they shared with CBS (PSP-C; PSP-P2). Here, CBS provided PSP-P2 with the findings that flowed from the partnership (PSP-C). Although CBS did not publish statistics in the PSP-case, it did produce findings on the development of transactions during the COVID-19 pandemic (PSP-C). Moreover, CBS provided PSP-P2 with specific data relevant to PSP-P2's business (PSP-P2). For instance, during the COVID-19 pandemic the number of online transactions increased as a result of government restrictions and PSPs witnessed an increase in their clients (PSP-C). Regarding this, PSP-C stated the following:

''The government knows that if they place restrictions on certain industries, then we have to provide supporting measures. (...), but a lot of businesses were like: 'if I cannot sell my products anymore, can I then do something else to generate profit?' And that was something very relevant for the PSPs, they saw their customer base expanding and an overall increase of online transactions.''' - (PSP-P2)

Data on how this customer base would increase and how it was spread across different industries was very interesting for PSPs (PSP-C). Therefore, CBS provided insights from data into this increasing customer base (PSP-C). This reward was identified in the interview with PSP-P2 as 'sharing specific data relevant to private partners'.

Besides reciprocity related rewards, CBS also provided an incentive to PSP-P2 that relates to knowledge sharing. Here, CBS shares knowledge with PSP-P2 on data analysis and processing methods, which PSP-P2 can use in its own analyses (PSP-P2). According to PSP-P2, this worked as follows:

''Well, I think that knowledge is part of this as well. I mean, for CBS and the people we have been talking about this is what they do on a daily basis. We work with data analysts as well. Since last year we started this, so that you work together, like: 'alright, what do we see now?''' - (PSP-P2)

To make future partnerships more successful in terms of participation, guaranteed participation of other private organisations would make voluntary B2G data sharing more appealing to businesses (PSP-C; PSP-P1). Therefore, PSP-P1 suggests that the guaranteed participation of other private organisations would be an interesting incentive for others to participate. This, however, does not take away the perceived issues of private organisations, which are mentioned before, in such partnerships and is thus no guarantee for participation. Another potentially interesting incentive could be the deployment of an intern by CBS to do initial research into a topic that is relevant for CBS and PSPs, which benefits both parties (PSP-C; PSP-P2). From this initial research, the potential of the data should become clear to the private organisation (PSP-C). Besides, this shows commitment from CBS' side into the partnership, which can stimulate the partnership.

Table 11: Indirect incentives/rewards identified in the payment service providers case.

Concepts		CBS	Private organisations	PSP -P1	PSP -P2
Indirect incentives	Data reciprocity	- CBS returning findings to private partners based on the data that they shared (PSP-C)	- CBS returning findings to private partners based on the data that they shared	-	X
		Providing insights from data in increased customer base as a result of the COVID-pandemic (PSP-C)	- CBS sharing specific data relevant to private partners	-	X
	Knowledge sharing	Not identified	- CBS sharing knowledge on data analysis and processing methodologies	-	X

Benefits/value creation. As CBS could not publish the results of this data sharing partnership with PSP-P1 and PSP-P2 due to a lack of participants, it can be argued that the partnership did not maximise its value creation potential. However, based on the data it can be argued that mutual benefits were realised in this case for PSP-P2. The data also suggests that this partnership has not been mutually beneficial for PSP-P1, as the data did not disclose any benefits that were perceived as gained by PSP-P1. This partnership can be deemed successful as the interviewed private organisations committed to other data sharing partnerships with CBS (PSP-C; PSP-P2). This gives data sharing between these PSPs and CBS a more structural character. Furthermore, according to PSP-P2, the objectives that CBS wanted to realise through this partnership were largely realised.

Comparison of Table 9 and Table 12 shows that not all expected benefits of the private organisations were achieved in this partnership. On the other hand, the expected benefits of CBS that have been identified in the interviews have been achieved. There might be, however, expected benefits that were not identified in this study and that CBS did not achieve. Table 12 shows that the benefits that have been gained from this partnership create either transferred resource value or interactional value, following the typology of Austin & Seitanidi (2012a, b).

A benefit that has been gained from this partnership by both CBS and PSP-P2 are insights into the development of transactions during the COVID-19 pandemic (PSP-C; PSP-P2). Although these insights were not published, they were perceived to be of value for these respondent's organisations. It is likely that PSP-P1 received these insights as well, but this was not specifically mentioned by PSP-P1 and therefore not included in Table 12. These insights helped PSP-P2 adapt to the uncertainties that resulted from the COVID-19 pandemic. Besides these insights, PSP-C perceives that the private organisations gained insights from data in their organisational performance and insights from data

Based on the data it can be argued that the partnership between CBS and the PSPs has been very informative for CBS. Table 12 shows that CBS created knowledge through this partnership that is deemed useful for future partnerships. For instance, PSP-P2 states that from this partnership CBS gained insights in the behaviour of PSPs:

“Through this partnership we have made contacts. You know how they think, you know, well, what their considerations are to not share their data. So you know when a new contact is made, well, we then have to better argue this and that. (...) In principle, we can handle every new contact a little bit better, which gradually helps us improve.” - (PSP-C)

These lessons enabled CBS to better respond to private organisations in later partnerships (PSP-C). Additionally, these lessons have been the starting point for CBS to develop a list with arguments for data holders to share their data, which is CBS-D3 (PSP-C). Another benefit that CBS gained in this partnership is related to the previous one: gaining practical knowledge on B2G data sharing partnerships (PSP-C). This knowledge contributes to insights into how continuously produced data can be used in a suitable way, how certain statistics based on PHD can be combined, and how certain issues can be solved (PSP-C). Furthermore, the partnership of CBS and the PSPs contributed to the development of new methodologies that can be used to disclose relationships between certain variables in which CBS is interested. These methodologies are also useful in creating and combining other statistics (PSP-C). It must be noted that knowledge resulting from the development of these new methodologies is made publicly available to avoid market distortion.

Table 12: Gained benefits and value creation in the payment service providers case.

Identified themes		CBS	Private organisations	PSP -P1	PSP -P2
CVC	Associational value	Not identified	Not identified	-	-
	Transferred resource value	Insights from data into the development of transactions during the COVID-19 pandemic	- Insights from data into the development of transactions during the COVID-19 pandemic	-	X
	Interactional value	Learning from insights in the behaviour of PSPs in voluntary data sharing partnerships (PSP-C) Gaining practical knowledge on B2G data sharing partnerships (PSP-C) Development of new data analysing and/or processing methodology to create new statistics (PSP-C)	- Private parties learning from CBS' data analysing and/or processing methodologies	-	X
	Synergistic value	Not identified	Not identified		

As can be seen in Table 12, no gained benefits derived from the creation of associational value and synergistic value were identified in this case. However, it can be argued that this partnership partly contributed to the creation of synergistic value. According to PSP-C, the use of PHD in the way it was used in this partnership can contribute to shortening the policy cycle. PSP-C states:

“The shorter that [policy] cycle is, the more effective your policy is. (...) And potential wasted time, when you find out three years later that your policy was not right and you know you have to fix it, those kinds of things may not be prevented, but they can be tracked down a lot sooner. And that makes becomes more efficient and effective as well.” - (PSP-C)

Although this is not a benefit that has been achieved yet, it can be argued that this partnership contributed to shortening the policy cycle by exploring ways to use PHD in creating more frequent and timely statistics.

Overall, it can be argued that this partnership was mutually beneficial for CBS and PSP-P2's organisation, which gained insights from data and created knowledge that can be used in future voluntary B2G data sharing partnerships (Table 12). These benefits are in line with the interests of the private organisations. PSP-P1's organisation did not seem to have gained significant benefits and therefore it can be argued that this partnership was not mutually beneficial for this company. It must be noted that PSP-P1 did not show much interest in benefits. Both private organisations committed to additional data sharing partnerships with CBS, which allows for a more structural B2G data sharing partnership and continuous data collection.

5. Discussion

This study aimed to explore how the interests of public and private organisations can be aligned to make voluntary B2G data sharing to address societal challenges mutually beneficial and sustainable over a longer period of time. The framework for voluntary B2G data sharing by Rukanova et al. (2020) was adapted to fit the scope of this research and to put more focus on how these partnerships could be mutually beneficial. Application of this framework to the case of CBS and two of its voluntary B2G data sharing partnerships, disclosed insights in how these partnerships realised mutual benefits through the alignment of interests. In the remainder of this chapter, the findings that have been presented above are further elaborated on and placed in the literature. Based on this discussion, this chapter proposes an extended version of the framework that was introduced in Chapter 2 (Figure 2). Furthermore, the limitations of this research will be discussed. Afterwards, recommendations for further research are provided.

5.1. Cross-case Comparison

5.1.1. Organisational Interests

The findings suggest that CBS' societal interest is similar in both cases. By means of these partnerships CBS aims to inform society on the developments of the COVID-19 pandemic, which is their main societal interest. For the private organisations involved this is less straightforward. Comparison of Table 5 and Table 9 shows differences in the societal interest of the private organisations involved in the dashboard freight transport and the PSP-case. Whereas the interviewed private organisations in the DFT state that they serve the public interest in view of their public history, the private organisations in the PSP-case depict voluntary B2G data sharing in this case as a sense of response to CSR or the desire to create social impact through their collaboration with CBS. This difference could be caused by the organisational nature of the organisations that are involved in both cases. Although they have been privatised, the interviewed organisations in the DFT still realise public goals. Therefore, the reason that these businesses voluntarily share their data with CBS is in the first place related to these goals. The businesses might also have sustainability related motives for sharing their data. This, however, has not been identified in this study. The interviewed companies in the PSP-case, commercial organisations in their core, show that their interests in this voluntary data sharing arrangement are more related to their sustainability agendas. This is also reflected in the self-interests of the businesses in the PSP-case. Both businesses state that their interest in this partnership is to conform to their shareholders (Table 9), which nowadays often demands more focus on a sustainable business. The difference in orientation between the businesses in the two cases could explain the witnessed difference in interests. Based on these findings it can be argued that the interests that private organisations pursue in voluntary data sharing partnerships partly depend on their organisational nature.

Based on the findings it can be argued that government organisations pursue self-interests in data sharing partnerships with private organisations. Besides CBS' natural societal interest it also pursues self-interests that either relate to improvement of or development of data collection, processing, or analysing processes through the access to PHD. Voluntary B2G data sharing partnerships are a way for CBS to develop and try out new methodologies and/or technologies. For instance, CBS and DFT-P2's organisation mention that a direct access of CBS into the databases of DFT-P3 is currently being developed as part of their collaboration within the DFT. Although this brings some technical difficulties to light, for instance related to digital infrastructure, this is the kind of improvement that CBS explores to make their data collection more efficient and therefore less burdensome for private organisations. The possibilities to establish such a pipeline to private organisations are also explored with other organisations. Besides, these partnerships offer the opportunity to gain experience by exploring best practices, as partnerships of this particular nature are relatively new. For government organisations, B2G data sharing partnerships can yield relevant knowledge, which can be used to improve existing practices or develop or strengthen others.

In both cases the private organisations indicate that one of their main self-interests in voluntary B2G data sharing partnerships is gaining insights from data. What kind of insights they want to gain depends on their business. The findings of the dashboard freight transport suggest that gaining insights into the performance of competitors is a prominent interest (Table 5). This is partly reflected by the findings from the PSP-case (Table 9). Based on these findings it can be argued that gaining insights from data is a main interest for private organisations to voluntarily share their data with CBS. Among others, PSP-P2's organisation's took an interest in gaining insights from data into the development of relevant industries during the COVID-19 pandemic. Based on these findings it can be argued that gaining insights from data is a main interest for private organisations to voluntarily share their data with CBS.

The data suggests that voluntarily sharing data with a government organisation can, but does not necessarily improve the data holder's image. It can be argued that the extent to which a private organisation perceives an increased image as a benefit depends on their organisational nature. Here, it is suggested that a commercially oriented organisation is more likely to consider this as valuable than a privatised one. However, the findings also suggest that this could work paradoxically for commercially oriented organisations. Collaborating with a government organisation is not always perceived desirable by the clients of private organisations, due to fear that their data ends up in the hands of other government organisations.

Overall, the findings on the organisational interests of CBS and its private partners in these two cases suggest that all organisations pursued a mixed interest and several main interests for both parties were identified. The societal interests of CBS and the private organisations in the DFT and the PSP-case aligned well, as all organisations were willing to contribute to the creation of insights into the COVID-19 pandemic. It can be argued that the self-interests of the organisations across the cases are less aligned, as public and private organisations in essence pursue different interests due to their organisational nature. Although these self-interests did not fully align, it can be argued that they connected and therefore did not cause major conflicts.

5.1.2. Alignment Mechanisms

Within the two cases no major diverging interests between the interviewed public and private parties were identified. Alignment between CBS and the interviewed private organisations in both cases was reached quite similarly. In both cases the COVID-19 pandemic played a crucial role in realising voluntary data sharing between CBS and the private organisations. CBS' project leaders of the subcases

both mentioned that the COVID-19 pandemic accelerated the alignment phase and that the partnership was formed quicker than usual. The analysis suggests that the COVID-19 pandemic sparked a sense of urgency among the private organisations and increased their willingness to share data with CBS to gain insights in the development of the pandemic.

Furthermore, the data indicates that the urgency in the COVID-19 pandemic created a basis for linked interests to build on. According to Austin & Seitanidi (2012a, b), linked interests are found when the self-interests of organisations are connected to jointly create societal value. In the cases, due to the uncertainty about the development of the COVID-19 pandemic the businesses and CBS in the DFT and PSP-case wanted insights from data in areas relevant to them. Therefore, it can be argued that urgency played an important role in aligning the interests of the organisations involved and is therefore considered to be an alignment mechanism in these cases.

In the cases, two main mechanisms to find linked interests were identified: identification of a partner's goals, needs, and perception of the partnership and establishing and maintaining intensive contact between partners (Figure 5). The case analysis showed that the identification of the partner's goals, needs, and perception of the partnership is one of the main mechanisms. In both cases, by identifying these two aspects government organisations can anticipate by making private organisations aware of a common interest or by finding suitable incentives. Another important mechanism that has been identified to build on linked interests is establishing and maintaining intensive contact between CBS project leaders and the contact person at the private organisation. The findings suggest that such intensive contact helps to establish mutual trust, which is a driver of voluntary B2G data sharing partnerships (Susha & Gil-Garcia, 2019). Besides, technical issues related to the transfer of data were solved quicker through the intensive contact between the partners in the two cases. Based on the findings it is suggested that utilisation of these two mechanisms could help government organisations to identify linked interests, which can have a positive influence on partnership development, and eventually build on these linked interests to sustain the partnership.

A well-specified data request is named as an enabling factor in bringing parties closer together in voluntary B2G data sharing partnerships within the DFT and the PSP-case. Based on the findings from these cases, it can be argued that the provision of a well-specified data request to private parties, in which the desired data is extensively specified, could already take away some concerns that they might have. Furthermore, in both cases it is noted that high data standards on CBS' behalf took away some privacy related concerns that the interviewed private organisations had. The legislative frameworks that apply to CBS create trust in CBS' ways of handling sensitive data. These legislative frameworks create high data standards, which are perceived to lower the risks of data sharing by the private organisations in these cases. Therefore, it is suggested that a well-specified data request and high data standards makes the alignment of public and private interests easier.

In the two cases, the provision of incentives was not essential for all interviewed private organisations to share their data due to a linked interest. However, the findings of the within-case analyses suggest that they are promising in creating mutual benefits in voluntary B2G data sharing partnerships. This research adds to Martens & Duch-Brown's (2020) proposition that, based on the findings, the provision of indirect rewards to private organisations contribute to a more sustainable partnership over a longer period of time. Here, indirect rewards would refer to non-monetary rewards. These rewards can take the same shape as incentives, but are provided in a later stage of the partnership.

Martens & Duch-Brown (2020) categorise incentives in direct and indirect incentives (Figure 2). The findings of the within-case analyses suggest that no direct incentives, i.e. monetary incentives, were provided to the interviewed organisations. This can be explained by the fact that CBS is hesitant to pay for data, for which the findings suggest two reasons. First, CBS does not want to create a lock-in situation in which a data supplier can increase its charges. Second, CBS is bound to legislation that

prevents them from interfering in the market. Besides, government organisations face ethical considerations when requested to pay for PHD, e.g. because tax money is spent.

Unlike direct incentives, the within-case analyses suggest that indirect incentives and rewards were provided. Based on the findings of the two cases, three main categories of provided indirect incentives and rewards can be identified: *data reciprocity*, *knowledge sharing*, and *cost reduction for data holders* (Tables 7 and 11). The identification of these categories of indirect incentives contributes empirical insights to the literature on how win-win situations can be created in voluntary B2G data sharing partnerships. In both cases, incentives/rewards based on data reciprocity were provided to most of the data suppliers. Here, CBS returned findings to the private organisations that were based on the data that they had shared and which are publicly available through the publication of statistics. Another derived incentive that has been identified in both cases is the provision of data and findings that are specifically relevant to private organisations. An issue with this incentive is that CBS is bound to legislation (e.g. MR and BMO), which limits the ability of CBS to return certain types of data to private organisations. This is likely to be the case for other government organisations as well. However, CBS was able to, for example, deliver benchmarks based on statistics to the private organisations in the cases. Incentives based on data reciprocity were potentially valuable for private organisations given the uncertainties of the COVID-19 pandemic and the need for insights in its development. These incentives are likely to be interesting beyond this pandemic as well, as an increase in data-driven businesses can be witnessed.

The findings of the PSP-case suggest that incentives based on knowledge sharing are interesting for private organisations. In the PSP-case, it was mentioned that private organisations learned from CBS' expertise in data analysing and processing methodologies. This knowledge can be valuable to private organisations that are data-driven, but also to organisations that are less data-driven.

Furthermore, the findings indicate that the provision of incentives can lead to cost reduction for data suppliers. Based on the data it can be argued that the provision of rewards can contribute to more sustainable partnerships over a longer period of time. This is in line with Austin & Seitanidi (2012a), who state that value renewal is a prerequisite for sustainable partnerships. This has been demonstrated in the DFT. Here, CBS and DFT-P2's organisation renewed their long lasting relationship by agreeing to work *quid pro quo*, meaning that both organisations voluntarily reciprocate services. This especially is a promising incentive for organisations to share their data to ensure mutual benefits and a more structural character to voluntary B2G data sharing partnerships.

5.1.3. Mutual Benefits and Value Creation

The data suggests that the benefits were mostly in line with the expected benefits in the DFT, whereas the expected benefits were not entirely realised in the PSP-case. This can be derived from a comparison of Table 5 and Table 8 in the DFT, and Table 9 and Table 12 in the PSP-case. This difference in realised benefits can be attributed to the fact that CBS could not publish statistics in the PSP-case due to a lack of data suppliers. This underlines the importance to create win-win scenarios in voluntary B2G data sharing partnerships and create awareness of the benefits among private organisations, as the social value that could have been created in the PSP-case is not maximised.

Although not all expected benefits were realised in the PSP-case, it can be argued that mutual benefits were created in both cases. The benefits that were gained in the two cases can either be classified as transferred resource value or interactional value. For both public and private organisations in the DFT, the production of more frequent statistics in light of the COVID-19 pandemic has been beneficial, as insights into how the pandemic affected their businesses were gained. These insights were also gained in the PSP-case through collaboration with CBS, even though there was no publication of statistics. More generally, in both cases more business specific insights from data were gained. The role

that data culture seems to play in foreseeing the benefits that private organisations can gain in voluntary B2G data sharing partnerships is visible across the cases. The data suggests that organisations require a well-developed data culture to internalise benefits that are related to insights from data. If this data culture is not present or less developed, incentives based on data reciprocity would be less effective, as the receiving party is less likely to perceive the benefits as useful. To make these partnerships mutually beneficial for these organisations, government organisations could explore other suitable incentives and/or rewards.

The other two main benefits that have been identified in this research relate to interactional value. First, the data indicates that the development of new and improvement of existing data analysing and processing methodology was a main benefit in these cases. In both cases, new methodology was developed. The arising benefit is apparent for CBS. Nevertheless, the data suggests that at least one private organisation in the PSP-case benefited from this as well, as they learned from this process. Other organisations across the cases also mentioned that learning from CBS' methodologies could be valuable for their own business. Second, the data suggests that practical experience with voluntary B2G data sharing was gained by CBS in the PSP-case. This practical experience was used to develop a strategy for approaching private organisations in future voluntary B2G data sharing partnership. For government organisations in general, this is a useful benefit as this knowledge can contribute to more successful voluntary B2G data sharing in the future.

Austin & Seitanidi (2012a) argue that the synergistic value derived benefits can lead to the creation of social value. The analysis of interviews and documents did not find any evidence for the creation of benefits derived from synergistic value (Table 8 and Table 12). However, the findings do mention an indirect contribution to synergistic value creation in the two cases. It can be argued that the DFT in particular contributed to a shorter policy cycle through the publication of more frequent and accurate statistics. The policy cycle could in that case be shortened, as the impact of policy can be measured more frequently and policy can be adjusted accordingly (e.g. DFT-C). CBS stated a similar benefit in the PSP-case, but because there was no publication in that case, this benefit could not be gained. Therefore, it remains a perceived benefit by CBS. As there is no evidence on the actual impact of these cases on the policy cycle, this remains a potentially interesting benefit that can arise from voluntary B2G data sharing partnerships. The fact that no synergistic value derived benefits were identified in the cases, does not mean that no social value was created in the cases. Social value was created in these partnerships through the realised insights into the development of the COVID-19 pandemic. What makes it especially interesting is that multiple interviewees perceive it as a way in which the use of PHD can realise sustainable impact. Although the link between statistics based on PHD and implementation of policy on sustainable topics is indirect and not as straightforward as it might seem, it can potentially contribute to the creation of sustainable value in addressing societal challenges.

5.2 Contribution to Theory

Based on the findings of the case study, the conceptual framework that was presented in Chapter 2 (Figure 2) has been extended. Figure 5 provides an extended version of this framework. Within this framework, key findings are included from this case study.

The conceptual framework in Figure 2 takes the interests of organisations in voluntary B2G data sharing partnerships into account. In this framework, the three platforms of interests, as described by Selsky & Parker (2010), were included to describe the interests that public and private organisations may have in such partnerships and identify potential divergences. Susha et al. (2019b) demonstrated that this typology can be applied to an information sharing context. The findings of the two subcase analyses suggest that the organisations involved generally pursued a mixed interest in these voluntary

B2G data sharing partnerships. These mixed interests combine an organisation's self-interest and societal interest in these partnerships (Selsky & Parker, 2010), which have been identified in both cases. Based on the findings, it can be argued that this typology of organisational interests is also useful in describing the interests of actors in voluntary B2G data sharing partnerships.

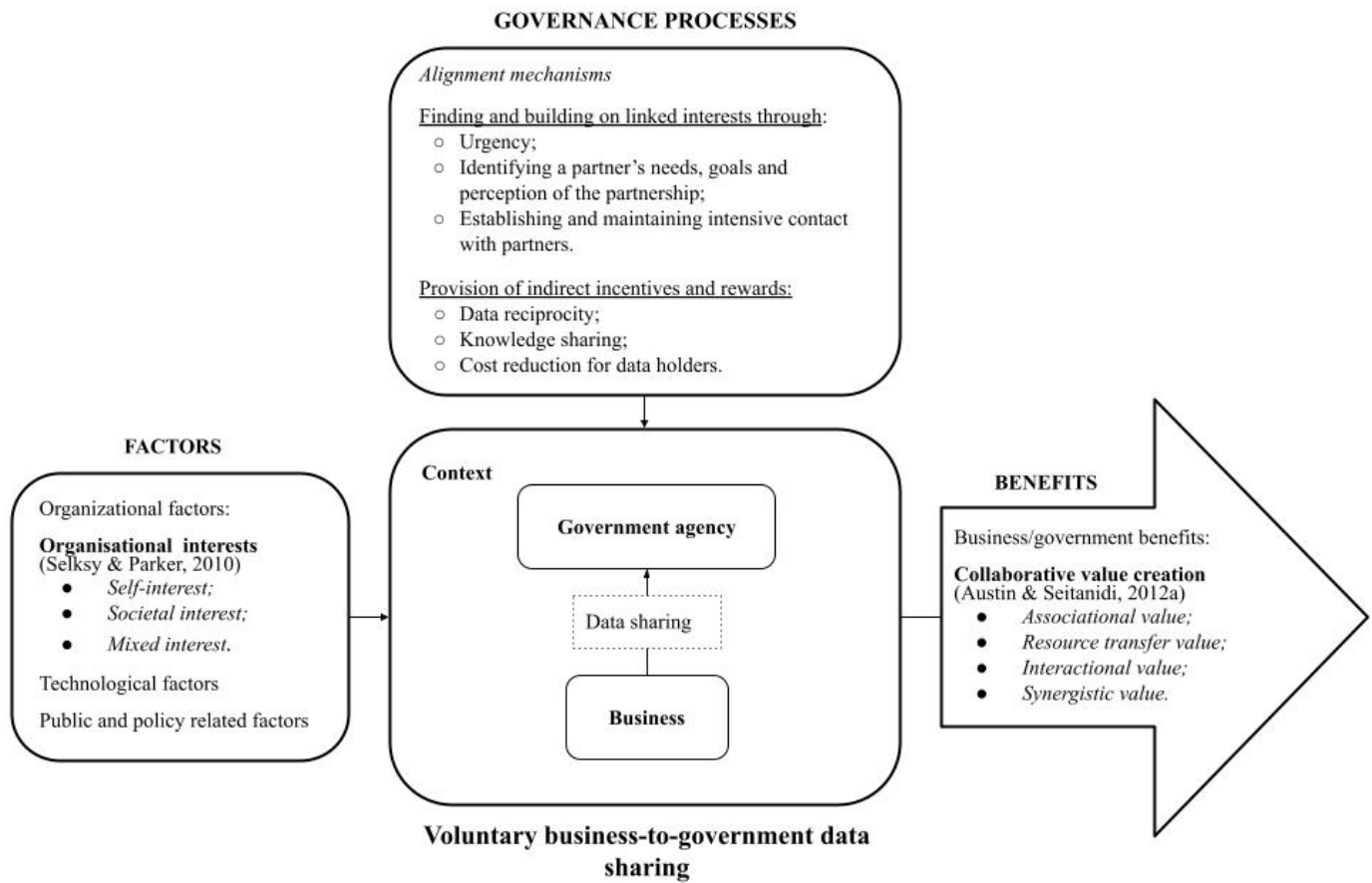


Figure 5: Extended framework for voluntary B2G data sharing based on the case findings.

This research proposed two mechanisms to align the interests of public and private organisations to create mutual benefits in voluntary B2G data sharing partnerships. First, the adapted framework of Rukanova et al. (2020) (Figure 2) proposes that finding and building on linked interests, as described by Austin & Seitanidi (2012a), could serve as an alignment mechanism to align diverging public and private interests. Based on the results of the within-case analyses it can be argued that finding linked interests and building on them was essential to form the partnerships in the DFT and the PSP-case. This research identified three alignment mechanisms to find and build on linked interests that were not yet identified in the literature (Figure 5). Urgency is considered as a main alignment mechanism in the two cases, as this created a common ground on which the partnership could build. Urgency as an alignment mechanism can have implications for future voluntary B2G data sharing partnerships in addressing societal challenges. As there is increasing urgency regarding sustainability topics, it is not unthinkable that the willingness of private organisations to share their data will increase. Furthermore, the identification of a partner's needs, goals, and perception of the partnership is identified as a mechanism to find and build on linked interests. Also, establishing and maintaining intensive contact with private partners can help to establish trust. These two alignment mechanisms can help government organisations to identify linked interests and establish trust, which is deemed important in voluntary B2G data sharing partnerships.

The second alignment mechanism that was proposed in Figure 2 was the provision of incentives, as described by Martens & Duch-Brown (2020). In their paper, Martens & Duch-Brown (2020) propose that the provision of incentives and rewards could help overcome barriers to B2G data sharing and stimulate private parties to share data. Although the provision of incentives at the start of the partnership was not identified to be crucial in the alignment of interests in the two cases, the findings do suggest that incentivising and rewarding are a way to create mutual benefits and contribute to a more sustainable partnership. This research identified three categories of incentives and rewards (Figure 5): data reciprocity (e.g. returning data to the data holder), knowledge sharing (e.g. knowledge on data processing and analysing methods), and cost reductions for data holders (e.g. quid pro quo agreement). These are considered to be promising in creating win-win situations in voluntary B2G data sharing partnerships.

To gain a more detailed view of the value that is created in voluntary B2G data sharing, the initial framework (Figure 2) adopted parts of the collaborative value creation (CVC) framework from Austin & Seitanidi (2012a). In the two cases, creation of transferred resource value and interactional value were identified. Although no associational value and synergistic value was identified, it is not unthinkable that these types of value arise in other cases. Therefore, the results of this research suggest that the types of value creation from the CVC framework are promising in describing and categorising benefits in a voluntary B2G data sharing context, as the types of value creation were partly identified.

5.3. Limitations

Reflection on the methods that have been used in performing this research disclose several limitations. First, in this embedded case study two subcases were studied. To gain rich insights, this research studied partnerships that were already finished. This, however, limited the availability of suitable voluntary B2G data sharing partnerships in which CBS was involved. As a result, the DFT and the PSP-case were selected as suitable cases. The findings from these cases are not representative for all instances of voluntary B2G data sharing. As a result, the empirical use of data from two cases limits the generalisability of the findings and has lowered the external validity of this research (Bryman, 2016).

A second, related, limitation that has been identified in this research is that the cases did not have the same outcome in terms of publication. Whereas the DFT published its statistics, this was not the case for the statistics that were made based on the data from the PSPs. In the PSP-case, several PSPs decided not to share their data. These parties were not available for interviews and their reasons for not committing to a voluntary data sharing partnership with CBS have therefore not been explored. This difference between the two cases might have decreased the internal validity of this research (Goffin et al., 2019).

Third, not all private sector participants of the two cases have been interviewed. Therefore, not all viewpoints within the cases have been addressed in this research. This limitation arises from the unavailability of other case related private organisations to participate in the interviews, as mentioned before. This affected the construct validity of this research (Goffin et al., 2019).

Fourth, this research might have been subjected to a confirmation bias. As this study was performed in an interpretive fashion, as described by Walsham (1995), the interviews and documents were analysed in light of the relevant conceptual constructs. As a result, there is a risk that certain statements from the interviews or passages in documents were misinterpreted, which could result in a decreased reliability of the findings. To avoid this, the findings have been presented to the interviewees to validate them.

A last limitation could be that the results are subjected to a participant bias. The interviews were conducted one-on-one with the interviewed organisations that are involved in the cases. The findings that are derived from these interviews are therefore based on the viewpoints of the interviewees, even

though these people represented their organisation. To address this limitation, this research used triangulation. No discrepancies based on the source of the data were found.

5.4. Suggestions for Further Research

Based on the discussion of the findings and the considered limitations to this research, several gaps were identified in this research. To address these gaps, this research proposes several areas on which future research can focus.

Given the limited number of subcases that have been studied in this research, the framework that has been proposed in this research can be applied to other cases of voluntary B2G data sharing partnerships, to gain more insights into the alignment of interests to create mutual benefits and a sustainable partnership. This can contribute, especially in the light of the exploratory nature of this research, to further theoretical insights on how voluntary B2G data sharing can become mutually beneficial and sustainable.

Related to this, the application of the framework to other voluntary B2G data sharing contexts could yield valuable insights in the creation of synergistic value and associational derived benefits. These benefits have not been identified as gained interests in the two cases. Therefore, as synergistic benefits are innovation-driven and can cause systemic changes (Austin & Seitanidi, 2012a), more detailed insights in how they are achieved are useful to create societal value and adequately address societal challenges. More insights in associational value creation in voluntary B2G data sharing arrangements could contribute to a better understanding of how win-win situations can be created, as the findings suggest that they are potentially interesting for commercial organisations.

Lastly, future research can investigate how mutual benefits and more sustainable benefits can be created in 'regular' times. The COVID-19 pandemic played a crucial role in the formation of these partnerships, as the willingness of private organisations to voluntarily share their data increased due to a perceived urgency. Related to this, future research could more in-depth study the role of urgency as a driver of B2G data sharing partnerships in addressing societal challenges, as the data suggests that the perception of urgency is a promising mechanism to align public and private parties.

6. Conclusions

This research aimed to develop empirically derived insights in the alignment of interests of public and private organisations to create mutual benefits in voluntary B2G data sharing partnership that aim to address societal challenges. The main question that this research tried to address was:

How can voluntary B2G data sharing to address societal challenges be mutually beneficial and sustainable?

This question was studied by applying an adapted version of the framework for voluntary B2G information sharing by Rukanova et al. (2020) to the case of CBS, which is the Dutch national statistical office and which has a history with voluntary B2G data sharing partnerships. As this research was designed as an embedded case study, two voluntary B2G data sharing partnerships of CBS were studied as subcases: the dashboard rapid indicators for freight transport and CBS' partnership with payment service providers.

The findings of this research suggest that voluntary B2G data sharing to address societal challenges can be mutually beneficial through alignment of public and private interests. In this study, two main alignment mechanisms were identified: the identification of a data suppliers' goals, needs, and perception of the partnership, and through establishing and maintaining intensive contact with the data supplier. Alongside these mechanisms, a perceived urgency to share data increases the willingness of private organisations to share their data. This is identified as the main enabler for B2G data sharing, especially in combination with an already present societal interest. Furthermore, it is suggested that the provision of incentives is also a suitable way to create mutual benefits, especially when a linked interest is not found. In that case, incentives are a useful mechanism to realise an organisation's perceived benefits. In these cases, data reciprocity, knowledge sharing, and cost reduction for data holders are identified as interesting incentives for private organisations. It is argued that the perceived benefits of public and private parties, which are based on their interests, can be realised through these alignment mechanisms. This research identified two main categories of benefits, in which mutual value is created in the two cases: benefits derived from the transfer of resources from one organisation to another (i.e. tangible assets) and benefits derived from interaction with partners (i.e. knowledge creation).

To answer the second part of the research question, the findings suggest that voluntary B2G data sharing partnerships can move beyond their one-off nature and become more sustainable through value renewal. This is in line with the theory of Austin & Seitanidi (2012a, b). Based on the case findings it can be argued that value can be renewed in these partnerships through the provision of rewards. Here, the identified alignment mechanisms play a role as well. To maximise the potential of these rewards, they must be related to the goals and needs of the partner. Moreover, the findings suggest that the establishment of trust is important to create a sustainable partnership over a longer period of time.

The findings of this research can be interesting for government organisations that are willing to engage in voluntary B2G data sharing or are already engaged in such a partnership. The alignment mechanisms that have been identified in this study can be useful in other instances of voluntary B2G data sharing partnerships to align their interests with those of private organisations to jointly address societal challenges. Furthermore, this research contributed to the literature on voluntary B2G data sharing partnerships by presenting empirically-derived knowledge on how organisational interests can be aligned to create mutual benefits in voluntary B2G data sharing partnerships. However, as this was an exploratory study, additional research is needed to further develop the presented framework based on empirical evidence, which contributes to a better understanding of how mutual benefits and a more sustainable partnership over a longer period of time can be realised.

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Appendix

Appendix A - Interview Guides

Table A1: Interview guide for business respondents.

Introduction First of all, I want to thank you for participating in this study on how B2G data sharing can be mutually beneficial and sustainable. The goal of this interview is to understand how your business balanced its interests with CBS and what the outcomes of the collaboration were. Refer to the informed consent form, which has been signed by the interviewee. With your permission, I would like to record this interview for analytical purposes. If you would like to say something off-the-record, please let me know. The recording and the forthcoming data from this interview will be handled in a confidential manner.	
Topic	Questions
Introductory questions	<ul style="list-style-type: none"> • Can you tell me how this partnership between <insert interviewee company> and CBS came to be? • What motivated you to collaborate with CBS? • To what extent would you say that the collaboration with CBS has been successful and mutually beneficial? Why?
Drivers and challenges	<ul style="list-style-type: none"> • What was driving the collaboration between your business and CBS? • What challenges did you experience during this collaboration?
Alignment	<ul style="list-style-type: none"> • How were you able to align your interests with those of CBS and how was the common vision created? • What difficulties did you experience in aligning your interests with CBS? • To what extent did you feel like CBS and your business found common ground? • What played a critical role in achieving a win-win arrangement? • Looking back at the collaboration with CBS, what could stimulate such a data sharing arrangement in the future?
Outcomes	<ul style="list-style-type: none"> • Upfront, what did you expect to be the outcome of this collaboration? • In hindsight, what were the actual outcomes of the collaboration with CBS for your business??
Sustainability and statistics	<ul style="list-style-type: none"> • How, in your view, can mutual value be created for your business and CBS? • How do you see the role of private sector data in enabling better statistics on sustainability issues? <ul style="list-style-type: none"> ○ What is the position of your company on that? ○ How, in your view, can this practice be scaled up in the future?
Additional comments	Additional comments can be case and interviewee specific.
Closing remarks	Thank you very much for participating in this interview. In a few days I will send you the transcription of the interview for approval. If you have any questions or additional points to share afterwards, please feel free to contact me.


Note: the interview guide for CBS respondents was used for both case specific respondents and respondents for the main case study. Therefore, some questions were reformulated into a more general question on data sharing between businesses and CBS.

Table A2: Interview guide for CBS respondents.

<p>Introduction</p> <p>First of all, I want to thank you for participating in this study on how B2G data sharing can be mutually beneficial and sustainable. The goal of this interview is to understand how CBS balances its interests with businesses and what the outcomes of (a specific) data sharing collaboration(s) were. Refer to the informed consent form, which has been signed by the interviewee. With your permission, I would like to record this interview for analytical purposes. If you would like to say something off-the-record, please let me know. The recording and the forthcoming data from this interview will be handled in a confidential manner.</p>	
Theoretical concept	Questions
Case specific questions (not applicable to all CBS interviews):	<ul style="list-style-type: none"> • Can you tell me how this partnership between CBS and <insert business> came to be? • What motivated CBS to collaborate with <insert business>? • To what extent would you say that the collaboration with <insert business> has been successful and mutually beneficial? Why?
CBS' interests	<ul style="list-style-type: none"> • How would you describe CBS' interest in data sharing arrangements with businesses?
Drivers and challenges	<ul style="list-style-type: none"> • What is driving collaboration between CBS and businesses? • What challenges did you experience during this (or any other) collaboration with businesses?
Alignment	<ul style="list-style-type: none"> • What barriers did you encounter during the collaborations with businesses? • What strategies did you use to make sure that the interests of both CBS and the business in question were addressed? • What incentives could and did CBS provide to businesses in order to align the interests of both parties?
Creating shared value	<ul style="list-style-type: none"> • What were the expected outcomes of this partnership for CBS/of such partnerships in general? • In hindsight, what were the actual outcomes of collaborations with <insert business>/businesses in general?
Sustainability and statistics	<ul style="list-style-type: none"> • What in general can the outcomes/mutual value of such partnerships be? <ul style="list-style-type: none"> ◦ How, in your view, can mutual value be created for CBS and collaborating businesses? • How do you see the role of private sector data in enabling better statistics on sustainability issues? • How, in your view, can this practice be scaled up in the future?
Additional comments	Additional comments can be case and interviewee specific.
Closing remarks	Thank you very much for participating in this interview. In a few days I will send you the transcription of the interview for approval. If you have any questions or additional points to share afterwards, please feel free to contact me.

Appendix B - Informed Consent Form

Below, the informed consent form for participation in this research is provided (Figure 1), which has been drafted by Utrecht University. The form was presented to participants of this research (e.g. interviewees) for them to sign.



Utrecht University

INFORMED CONSENT FORM for participation in:

Voluntary business-to-government data sharing for advancing SDGs: exploring actor alignment to create mutual benefits

To be completed by the participant:

I confirm that:

- I am satisfied with the received information about the research;
- I have been given opportunity to ask questions about the research and that any questions that have been risen have been answered satisfactorily;
- I had the opportunity to think carefully about participating in the study;
- I will give an honest answer to the questions asked.

I agree that:

- the data to be collected will be obtained and stored for scientific purposes;
- the collected, completely anonymous, research data can be shared and re-used by scientists to answer other research questions;
- video and/or audio recordings may also be used for scientific purposes.

I understand that:

- I have the right to withdraw my consent to use the data;
- I have the right to see the research report afterwards.

Name of participant: _____

Signature: _____ Date, place: ____ / ____ / ____, _____

Figure B1: Informed consent form for participation, provided by Utrecht University.

Appendix C - Consulted Documents

Table C1: Consulted internal CBS documentation for the contextual analysis.

ID	Publication date	Document type	Short summary
CBS-D1	23-06-2022 (evergreen)	Reference document	Reference document that provides a guideline for acquiring new data sources and setting up B2G data sharing partnerships.
CBS-D2	05-01-2020	Internal memo	Description of the process of getting access to privately held data.
CBS-D3	25-01-202	Reference document	Working document on arguments/benefits that could convince private data holders to share their data with CBS.
CBS-D4	04-11-2021	Knowledge session	Informative session on the process of getting access to PHD.
CBS-D5	23-03-2022	Guideline	Internal note that provides a policy guideline for data payments.

Appendix D - Public and Policy related Factors

Table D1: Policy and legislative frameworks that CBS is subject to.

Level	Legislation	Description	Source
National	CBS Act	Legislation that describes CBS' legal duties and purpose as a government organisation. Also, this law enables CBS to force public and private organisations to share their data for the production of statistics. The CBS Act enables CBS to collect specific data that is required to create compulsory EC statistics. To create these statistics, it is mandatory for public and private organisations to share these specific types of data. The CBS Act states that CBS should in the first place collect its data from existing registers and databases of government bodies. If these are deemed not sufficient, CBS can turn to public and private organisations to collect this data.	CBS Act (2003)
	Ministerial Regulation (MR)	Policy brief that outlines the legal boundaries for collaboration between CBS and third parties. This policy brief states that CBS is in the first place a partner for public organisations. Several criteria are introduced that government organisations should consider before a collaboration with a private organisation can be formed. These criteria take into account the interests that private organisations might have, prevent market pollution, and demarcate CBS' mandate.	CBS (2020b)
	Market and Government Decision (BMO)	Amendment to the Dutch competition law, which provides a legal framework for the delivery of services from government organisations to private organisations. This legal framework aims to prevent market pollution, as government organisations should not compete with private organisations on the market.	Market and Government Decision (2012)
European	General Data Protection Regulation (GDPR)	Regulation that aims to guard the safety of personal data by posing rules on its processing and transfer. This legislation standardises the rules on privacy across the EU and applies to both public and private organisations.	GDPR (2018)
	Data Governance Act (DGA)	The DGA is a European legal framework that aims to fulfil the potential of a data-driven society. The DGA tries to accomplish this by increasing the amount of available data by stimulating data sharing across European sectors. Also, this legal framework makes it easier for public and private organisations to share their data cross-sector.	DGA (2022)
	Data Act (DA) (proposal)	The DA is a regulatory framework that aims to stimulate data sharing within the EU to create a harmonised and strong European data economy. The DA builds forth on the DGA by specifying who can access generated data and on what terms. The DA provides means for public organisations to access PHD for specific purposes that are in the public	DA (2022)

		interest. It does not provide for instances of voluntary B2G data sharing.	
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