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Master thesis Public Management

OPEN DATA WITHIN MUNICIPALITIES

DOES COOPERATION BETWEEN MUNICIPALITIES ON THE TOPIC OF OPEN DATA IMPROVE THE PROVISION OF OPEN DATA BY MUNICIPALITIES?

A CASE STUDY INVOLVING DUTCH MUNICIPALITIES

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SUMMARY

We are living in an increasingly digitized society. The evolution of digital technologies over the past decades has created opportunities that previous generations could not have imagined. Within this research the focus lies on one of the possibilities digital technologies offer us, to wit, the dissemination of open data. The dissemination of open data has gained attention within the last couple of years. And on the 10th of july 2015, the Dutch minister of Interior, Ronald Plasterk, released 550 open datasets – freely accessible, shareable, and reusable for anyone in the world – to the public. Simultaneously, the "*Leidraad Open Data Gebruik"* was published. This document provides guidance and explains the duties other governmental organizations have when it comes to the release of open data. It is plausible that governmental organizations at lower levels of government, should already be taking action on the topic of open data as well.

This research investigates to what extent governmental organization lower levels of government are already providing open access to their data; it does so by conducting a case study including Dutch municipalities. The research investigates the extent to which 45 mid-sized Dutch municipalities with between 50.000 and 100.000 inhabitants, provide open access to their data. It is expected that, due to the size of the municipalities – they are too small to take on the topic alone, and too big to not take into account the topic of open data - cooperation between these mid-sized municipalities has an influence on the provision of open data.

Prior to the actual case study first theories on open data and on cooperation are explained and connected. These theories form the basis for the secondary data analysis, which was conducted to gain more insights on the provision of open data by municipalities. As well as for a survey questionnaire, that was sent to 45 city managers in order to gain appropriate insights on the cooperation on the topic of open data.

Based on the results of the survey and the secondary data analysis, the research finds that as of today, seven out of 45 mid-sized Dutch municipalities are already providing open access to (some of their) data. 26 out of 31 municipalities that filled in the survey, stated to be taking action on the topic of open data to some extent or to a higher extent. 23 of these municipalities are already cooperating with other municipalities on the topic of open data at least to some extent. The research finds no significant relationship between the extent of cooperation and the provision of open data (α=0.05). What the research does show is that many municipalities are already taking action on the topic of open data. Thus we can expect that within the upcoming years, much more municipal data will become openly available.

SAMENVATTING

We leven in een in toenemende mate gedigitaliseerde samenleving. De evolutie van digitale technologie over de afgelopen decennia heeft mogelijkheden gecreeërd die eerdere generaties zich neit voor zouden kunnen stellen. Dit onderzoek focust zich op één van de mogelijkheden die dankzij het digitale tijdperk voor ons mogelijk zijn geworden. Namelijk de mogelijkheid om data gemakkelijk open beschikbaar te maken. Het open beschikbaar maken van data heeft in de afgelopen jaren de nodige attentie gekregen. Op 10 juli 2015 heeft de Nederlandse minister van binnenlandse zaken, Ronald Plasterk, 550 open datasets – vrij toegankelijk, deelbaar en herbruikbaar, voor iedereen ter wereld – publiekelijk beschikbaar gesteld. Op hetzelfde moment is de "*'Leidraad Open Data Gebruik"* gepubliceerd. De leidraad biedt een handleiding en legt de plichten van andere overheidsorganisaties uit als het aankomt op het beschikbaar stellen van open data. Het is aanneembaar, dat ook gemeenten en provincies reeds met het onderwerp open data bezig zijn.

Binnen dit onderzoek, wordt er gekeken naar de mate waarin overheidsorganisaties binnen een lagere overheidslaag, reeds data open beschikbaar maken; dit wordt gedaan door middel van een case study onder Nederlandse gemeenten. Onderzocht is de mate waarin 45 middelgrote, Nederlandse gemeenten, met tussen de 50.000 en 100.000 inwoners, hun data open beschikbaar maken. De verwachting is dat, door de omvang van deze gemeenten – ze zijn te klein om het onderwerp alleen aan te pakken en te groot om het onderwerp te negeren – gemeentelijke samenwerking invloed heeft op de mate waarin data open beschikbaar is gesteld.

Alvorens de casestudy is uitgevoerd, zijn eerst theorieën met betrekking tot open data en samenwerking uitgelegd en verbonden. Gezamenlijk vormen deze theorieën de basis voor de secundaire data analyse, die is uitgevoerd om meer inzichten te verkrijgen in de provisie van open data door de verschillende gemeenten. Ook is een vragenlijst uitgestuurd aan 45 gemeentesecretarissen om inzichten te verkrijgen in de samenwerking met andere gemeenten op het onderwerp van open data.

De resultaten van de vragenlijst alsmede de secundaire data analyse wijzen uit dat, op het moment, zeven van de 45 middelgrote Nederlandse gemeentes reeds open toegang verschaft tot (enkele) van haar datasets. 26 van de 31 gemeenten die de vragenlijst hebben ingevuld, hebben aangegeven op het onderwerp open data in ieder geval in enige mate actie te ondernemen. 23 van deze gemeenten werken reeds – in enige, of hogere mate- samen met andere gemeenten op het onderwerp open data.Het onderzoek heeft geen significante relatie gevonden tussen de mate van samenwerking en de provisie van open data (α=0.05). Echter, kan op basis van het onderzoek wel gesteld worden dat veel gemeenten reeds actie ondernemen op het onderwerp van open data. De verwachting is dan ook, dat in de komende jaren, veel meer datasets door gemeenten open beschikbaar zullen worden gesteld.

ACKNOWLEDGEMENTS

Within the past years the topics of knowledge valorization and sharing of information have become more appealing to me. This is why I started an Internship at ScienceWorks in February, 2015. Scienceworks is a company in The Hague, which focuses on tripartite solutions, to connect businesses/governmental organizations, universities and the public. During my Internship at ScienceWorks my goal was to complete my thesis. However, an appropriate focus in terms of a topic still seemed to be lacking, and the road towards completion of the thesis became a bumpy ride. In the end of 2015, I started over with the thesis, with a clearer focus and a more appropriate topic. As of now, I have finished writing my thesis, and my long lasting career as a student is about to end. However, I'd first like to thank some people.

Firstly, I want to thank Frank Zwetsloot, CEO of Scienceworks, even though my internship at ScienceWorks didn't result in the completion of my thesis, I am grateful I had the chance to be an intern at your organization. You gave me the possibility to learn a lot concerning knowledge Valorization, by participating at congresses, executing the ScienceWorks Elsevier Valorization ranking, and by giving inspiring talks. Knowledge valorization in the end, is what drove me to choosing the topic of "provision of open data by municipalities" a topic I have enjoyed writing my thesis on.

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1. INTRODUCTION

Governmental accountability has become increasingly important within the past decades. Government has been transforming from a situation in which its main tasks were to provide information and services, enforce policy and make decisions internally; towards a shared governance model, in which policy making is done based on negotiation, services are provided based on demand and where citizens and other organizations are seen as partners in information creation. By involving citizens to a larger extent, governing becomes more democratic (Chun et al. 2010). The move towards shared governance has been basis for the open government initiative. Within the open government initiative, three principles for a government to be open have been defined. Government should be transparent, participatory and collaborative.

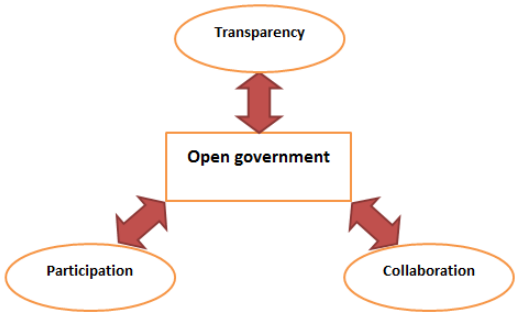

Figure 1: Three principles for an Open Government (Chun et al. 2010)

Transparency could be described as a situation in which a government organization provides all essential information to give citizens the proper insights to be able to hold the government organization accountable for its actions. An increased level of accountability increases the level of legitimacy which makes it very valuable (Harrison et al., 2011). However, transparency has more positive influences than just improving a government organization its accountability. Being transparent is thought to increase government performance, since it enables citizens to help defining which decision making processes are problematic and to give feedback on those.

Participation as well increases legitimacy of a government organization. The goal of public participation is that voices of a diverse group of citizens are included within the public policy process (Harrison et al., 2011). Including a diverse group of citizens within the public policy process has the potential to increase the effectiveness, democracy and legitimacy of decision making, since the voice of a larger audience is taken into account when doing so. Collaboration, just like participation can increase the effectiveness of governments, by solving problems for which no easy solutions are present together (Harrison et al.,2011).

The three principles for an open government, as explained above, are all enhanced by increasing citizen involvement.

Due to the evolution of digital technologies governmental organizations have many means to increase citizen involvement. One of these means is the provision of open data; the provision of open data by government organizations is the topic this research will focus on specifically. Governmental parties collect a great amount and variety of data to fulfill their tasks, differing from data on bike thefts in a city to data on garbage collection, to different

policy documents such as decision-making documents. Open government data implies that governmental parties should give their citizens appropriate insights in these kinds of data, to do so, key indicators of open data are that they are free of charge and easy to find. By doing so, citizens obtain more possibilities to be involved with decision making, which is a very important indicator for democratic governing. Moreover it gives citizens the possibility to innovate and start new companies based on the insights they obtained by using government data. Lately, the evolution of the internet and the emergence of open data repositories have made it easy for governments to make their data available for everyone who wants to access it, whenever they want to access it. Thus, if government organizations make their data openly available, this increases the extent to which they govern openly. For the Netherlands, open government has gained increasing importance recently. In 2011 the Netherlands joined the Open Government Partnership (Ministerie van Binnenlandse zaken en koninkrijksrelaties, 2011), a worldwide partnership, which aims to realize an open government. Based on agreements made within the Open Government Partnership, the Dutch government formulated a vision and plan of action to establish a more open government. Further development of open data and stimulating its use was one of the main goals within the plan of action. This has resulted in the open release of many datasets of governmental organizations at the national level. On the 10th of July 2015, the Dutch minister of Interior, Ronald Plasterk, released 550 open datasets to the public, he announced 300 more are being investigated, and if possible, planned for release. Moreover he stated that all governmental organizations in the Netherlands should reach for a more structured and opener data policy. To give other governmental organizations some guidance and explain their duties when it comes to releasing open data, a guiding document called "*Leidraad Open Data Gebruik"* was published on the 10th of July 2015.

National government is aiming to fulfill its duty to reach a more open data policy. At this moment however, there is no insight in the extent to which governmental organizations, at other levels of government, fulfill their duties when it comes to making their data openly available. Although it would be desirable if lower level governmental organizations provided open access to their data, we yet lack knowledge to what extent they do so. The rise of open data is new, and might be complex for some municipalities, but within this research we expect that all municipalities have the same goal: to make their data openly available for anyone. Due to this goal congruence, cooperation between municipalities might have an influence on the extent to which municipalities provide open access to their data. This research investigates the relationship between cooperation on the topic of open data and the open availability of government data at the municipal level. And ultimately aims to find out if structuring cooperation along certain lines can have positive influences on the extent to which municipalities provide open access to their data. It does so by looking into 45 Dutch municipalities, in fact all Dutch municipalities with 50.000 to 100.000 inhabitants. The research first aims to give insights in the extent to which data is made openly available by each of these municipalities. It does so by looking into a list of several domains on which different municipalities already make their data available through their own, central, online repositories. Additionally it looks into the usefulness of the data these different municipalities make available, using a framework of Yu & Robinson (2011).

To obtain more insights in the cooperation variable of this research, a survey is sent, to find out if the 45 different municipalities cooperate with other governmental organizations on the topic of open data, and if so, in what way the cooperation on the topic of open data is organized by these different municipalities. Based on the survey and the

secondary data analysis concerning the availability of open data, this research aims to find a relationship between the (organization of) cooperation and the extent to which different municipalities make their data openly available.

The remainder of this research report is structured as follows. The research questions that have been formulated in order to execute this research are presented within section 1.2. Chapter two presents theories that are necessary to understand open data and cooperation, in terms of this research paper, fully. Based on these explanations a theoretical model and hypotheses are formulated. Chapter three of this research concerns the methodology; it operationalizes the key concepts of this research, *availability of open data* and *cooperation*. It as well describes how the practical part of this research is executed. As such it explains the means for data collection and analysis and ultimately states the threats to validity that are present in terms of this research. Chapter four concerns the data collection. As stated earlier, two types of data are to be collected: first off data giving insights on the availability of open data for all of the 45 selected municipalities. Secondly data to gain understanding about the extent to which municipalities cooperate on the topic of open data, and the way in which the different municipalities organize this cooperation. As already stated, secondary data analysis will be used to find out more about the availability of open data, to obtain more insights on cooperation on the topic of open data, surveys are sent. Within chapter four the execution of the data collection will be discussed. Chapter five then presents the data and provides a thorough analysis. Since this research follows a design of quantitative nature, SPSS is used to find if a relationship is present between cooperation and the availability of open government data at the municipal level. Based on the analysis done, the research questions of this research will be answered. Chapter six, the final chapter of this research, presents a conclusion: it tells us how cooperation on the topic of open data appears to relate to the provision of open data for the municipalities included within this research and states how cooperation on the topic of open data could possibly drive provision of open data. It as well explains what theoretical and practical implications have to be taken into account, and gives suggestions for future research.

Summarizing, this research is relevant because of the following reasons. At this point in time not much is known about the extent to which Dutch municipalities provide open access to their data; additionally, no research has yet been done on the relation between cooperation and the extent to which municipalities provide open access to their data. This research thus contributes to the academic knowledge about open data and investigates if cooperation has an influence on the provided level of open data. From a societal perspective, this research serves to provide insights in the status quo of open data provisions for mid-sized municipalities in the Netherlands. It might as well lead to insights in how municipalities should organize their cooperation to improve the open access to their datasets. Policy makers can use the findings of this research to gain more insights on the extent to which comparable municipalities in term of size, provide open access to their data. How they cooperate on the topic of open data and how cooperation could possibly be beneficial for their own municipality.

1.2 RESEARCH QUESTIONS

The introduction of this research has given an explanation of why researching the provision of open data in combination with cooperation on the topic of open data is relevant. This section aims to present the research questions

that need to be answered to find out if there is a relationship between cooperation on the topic of open data and the extent to which different municipalities make their data openly available. If a relationship appears present, ways in which cooperation on the topic of open data can possibly be organized in order to be beneficial for the extent to which municipalities provide open access to their data can be identified. First the main research question will be presented. Based on the main research question, several sub research questions are formulated, each of these sub research questions is explained briefly. As stated in the introduction, as of now, not much research on the extent to which municipalities provide open access to their data, and even less research on possible factors influencing this provision, has been done. This led to the formulation of the following research question:

Does cooperation between municipalities on the topic of open data improve the provision of open data by municipalities?

As explained within the introduction, this research expects that cooperation with other governmental parties on the topic of open data and the way in which this cooperation is organized, has an influence on the extent to which municipalities make their data openly available. Prior to answering the main research question, several sub-research questions need to be answered. The following sub-research questions have been formulated in order to arrive at an answer on the main research question. First of all, the current situation when it comes to providing open access to data must be known for the different municipalities. Based on this the differences in the extent to which the municipalities provide open access to their data, can be identified, this leads to the first two sub research questions:

SRQ 1: What does the provision of open data of the different municipalities currently look like?

SRQ 2: What is the difference between the amounts of available open data provided by the different municipalities?

Once the current provision of open data for every municipality is known, the influence of cooperation on the availability of open data can be studied. As clarified earlier, the expectation is that cooperation on the topic of open data has an influence on the extent to which every municipality provides open access to its data. Therefore cooperation must be characterized and operationalized, and every municipality must be studied on the fact if they cooperate with other governmental parties on the topic of open data, and on how this cooperation is organized. This leads to the following sub question:

SRQ 3: What are the characteristics of the cooperation of the municipalities on the topic of open access to data?

Once the current situation according availability of open data and the organization of the cooperation of the different municipalities is known, one can test if a relationship is present between the amount of available open data and cooperation; this leads us to the final sub research question:

SRQ 4: What is the relationship between cooperation between municipalities on the topic of open data and the provision of open data of the municipalities?

Based on the answer on this sub research question an answer can be provided on the main question of this research, and different characteristics of cooperation that might have a positive or negative influence on the availability of open data can be identified.

2. THEORETICAL FRAMEWORK

Within the previous chapter of this research, the topic of this research has been introduced and the research questions have been presented and explained. This chapter first aims to explain theories considering open data and cooperation, which then can be used to formulate a theoretical framework. This theoretical framework ultimately is used to operationalize open data and cooperation, and therefore to execute this research in practice. The first section of this chapter focuses on explaining the concept of open data and gives an explanation of different domains on which data can be made available, as well as an explanation of different structures datasets can have. The second section focuses on introducing and explaining cooperation, and its barriers and benefits. Within section three a theoretical model is given, based on this model, hypotheses are formulated within the fourth and last section of this chapter.

2.1 EXPLAINING OPEN DATA

As explained within the introduction of this research paper, the provision of open data by a governmental organization has many potential benefits for this governmental organization as well as the public. It increases a governmental organization its accountability, and could be a driving factor for innovation and the creation of economic value. It enables citizens to start new companies, create new applications and hold government accountable (Open government data, 2015). An increase in the provision of open data and thus availability of data, therefore has much to offer and benefits are multifold. But what is open data?

Open data in a policy context finds its origins in a NASA project in the 1970s, where international partners were helping NASA to operate ground control stations for American satellites by making their data openly available, in the format NASA preferred, for NASA and other agencies participating within the program (Yu & Robinson, 2012). The concept of open data has been appearing within many areas ever since. The goal: giving individuals the ability to access information and use it in any way they want to. This means no terms as prescribed by others are to be followed. If data is provided in such an open way, it is thought that significant benefits can be acquired (Yu & Robinson, 2012). But what characteristics decide if certain data can be considered open? The predicate 'open', within open data has both a technological and a philosophical meaning (Yu & Robinson, 2012). From a technological perspective, 'open' implies that due to technological improvements, it is easy to open up data. Computers can handle data in standardized and structured formats far more efficiently than humans can. Additionally the fact that, nearly everyone has access to a computer with internet nowadays makes the computer a great device to distribute information. From a philosophical perspective, 'open' suggests participation and engagement (Yu & Robinson, 2012). Data should be easily accessible, shareable and reusable, for every person who desires to access, share or reuse data. There should be no legal barriers to access data. Other authors acknowledged open access criteria much like the criteria mentioned above. Klump et al. (2006) for example, stated that the following criteria must be met for data to be of open access. First off irrevocable, free access to data must be provided, anywhere in the world. Secondly everyone must have the right to copy, use, distribute, transmit and display the work publicly. Thirdly, everyone must have the right to make and distribute work based on the data. Last but not least, for data to be open, it must be available through at least one online repository with a long-term archiving capability. Such a repository can be defined as "*a shared database of information about engineered artifacts produced, or used by an enterprise*" (Bernstein & Dayal, 1994). Within this

research a repository is defined following this definition. The criteria mentioned by Klump et al. (2006). Give a complete overview of what open data should be: accessible, and free to use in whatever way one pleases.

So open data is data which is freely accessible, shareable and reusable for anyone, this however does not give us the possibility to measure to what extent different municipalities make their data openly available. To measure the extent to which different municipalities make their datasets openly available, we argue that it is not enough to just look into the amount of datasets a municipality makes available. Another important indicator to take into account when looking at the provision of open data can be linked to policy domain theory. A policy domain can be defined as a component of the political system that is organized around substantive issues (Burstein, 1991). When studying such policy domains, often three sets of characteristics are used. First off, there is the functional manner of studying policy domains. From a functional point of view, issues that define a domain share inherent substantive characteristics, domains are formulated to be logical and coherent (Burstein, 1991). Others ways to study policy domains are on an organizational basis, in which policy domains are defined as a set of organizations concerned about a set of substantive problems; and on a cultural basis, in which organizations are defining problems, develop policy options and then decide what other organizations to deal with. From this perspective cultural perspectives on how society works play an important role. This research uses the functional point of view from policy domain theory, to sort policy domains into categories on which municipalities are expected to make their data openly available. Because, when you take in mind the principles of open government - participation, transparency, and accountability –, one would expect a governmental organization to make datasets on the whole range of policy domains she works on available for the public, in order to enhance open government to the greatest extent.

The categories that are defined need to be unambiguous, logical and coherent. Prior research according to open data catalogues has yet been executed by Veljkovic et al. (2011). Within their research, they analyzed in which range of categories the public interest in data is present. Ultimately they arrived at nine broad categories on which municipalities should provide access to their data. These categories are displayed in the table below.

Category	Examples of data within category
Finance and Economy	Government Budget, annual budget plans, income, expenditures, donations, scholarship funds, taxes and revenue, poverty, wealth, investments
Environment	Meteorological data, pollution, emissions
Health	Social care, hospitals, nursing homes, pharmacies
Energy	Energy consumption, energy savings, monthly energy prices
Education	Schools, faculties, students, universities, private schools, exchange programs
Employment	Percentage employed/unemployed citizens, tracks of open positions in enterprises and firms
Transportation	Roads, maps, streets, public transport advisories, schedules

Infrastructure	Plans, roads, maps, streets, building sights, permits
Population	Births, deaths, marriages, divorces

Table 3: Different data categories and examples of data within these categories as defined by Veljkovic et al. (2011)

These categories form the basis for the measurement of the completeness of the available open data later on in this research. Next to the completeness of the available open data however, this research as well aims to look into the usefulness of the open data made available by the different municipalities. To do this, one of two dimensions of a stylized framework designed by Yu & Robinson (2011) is used. Yu & Robinson state that the term 'open data' in a policy context could mean two very different things. First off it could mean that we are talking about politically important disclosures, in this case it would not matter in what kind of format they are delivered, as long as they are delivered. Secondly the term open government data could mean that we are just talking about government data, which might or might not be politically important but in all cases is easily accessible. If this same term is used for both definitions, governments can claim they have increased public accountability because of the disclosure of political important documents when they are in fact just delivering a good open data technology, and vice versa (Yu & Robinson, 2011). To overcome this ambiguous definition, Yu & Robinson (2011) designed a framework including two dimensions. On the one dimension technology is described, this dimension accords to the disclosure of data. Data can be inert, which means that it is available in principle, but very hard to access, offline data is a good example of inert data. Data can as well be adaptable, which means data are structured, machine readable and available for interested users to download (Yu & Robinson, 2011). The inert-adaptable axis represents a continuum, the more adaptable, the more useful data is. On the other dimension the goals of disclosure are mentioned. Goals of disclosure are displayed on a spectrum, reaching from service delivery to public accountability, in other words, data could be made available to deliver a service, think of a real time feed of current bus locations for example, or to provide citizens with tools to hold government accountable, which could for example be campaign finance data. The figure below gives a visual representation of this stylized framework.

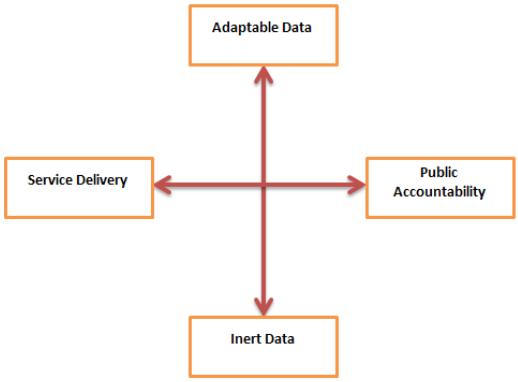

Figure 2: A stylized framework to consider the different dimensions of open data delivery (Yu & Robinson, 2011)

A clear definition of open access has been given and a two dimensional framework explaining the different dimensions on which different sets of data can differ has been presented. For the measurement of the available open data, the adaptable inert axis of the framework of Yu & Robinson (2011), will be used. The adaptability axis presented within the

framework of Yu & Robinson (2011), suggests that distinctions can be made in the adaptability of data. Since this research aims to look into the provision of open data, totally inert data won't be found, simply because this data does not meet the open data requirements as formulated. However, when providing open data, data can still be structured in different manners. This research proposes that different structures accord to different levels of usefulness of data. To define different structures this research follows the distinction made by Vincey (2012), the table below presents the different structure categories.

Distinction	Description of the data	Example extensions
Unstructured data	Text data, this type of data is not properly readable by a machine, but can be read by humans, this type of data could be classified as inert	.doc , .rtf , .txt , .pdf , .html
Semi-structured datasets	Data that is available in tabular form and can be read by a machine, but which requires some scraping before effective use	.csv , .xls , .ods
Structured datasets	Data can be read by a machine and is ready to be used for development of other applications or innovative ideas	.xml , .json , .rdf , .shp , .kml, .gtfs

Table 2: Data structure categories as formulated by Vincey (2012).

The more structure a dataset has, the more useful and easier to use it is for citizens, the structure of datasets will thus be used to measure the usefulness of the provided open data by municipalities later on in this research.

Concluding, this section has explained the concept of open data and theories which can be used to measure the availability of open data in terms of this research. To conduct this research however, it is not just the concept of open data that is of high importance, another important concept, the concept of cooperation, needs explanation as well. Within the next section theories explaining cooperation and previous research useful to look into the way in which cooperation is organized are therefore discussed.

2.2 EXPLAINING COOPERATION

Apart from the provision of open data, this research as well investigates the cooperation on the topic of open data municipalities engage in. The cooperation variable is important, because, this research aims to find the relation between cooperation on the topic of open data by municipalities and the extent to which the investigated municipalities make their data openly available. Within this section cooperation will be explained into further detail.

It starts out with explaining three different organizational forms of organization, to wit market, hierarchy and network. It explains these organizational forms, and then explains the form of organization with which cooperation could best be

identified. After this, the possible benefits of and barriers to cooperation are stated. Ultimately this section comes up with a set of measures that can be used to measure the way in which cooperation is organized.

Within organizational theory usually a distinction is made between three different organizational models of co-ordination (Exworthy, Powell & Mohan, 1999). These three models are the market, hierarchy and network. Within market theory the desired situation is one in which supply meets demand, transaction costs theories and other economic theories can often be linked to markets. Hierarchies are characterized by the idea of bureaucracy, within hierarchies, it is usual that resources are allocated and policy is made in a highly centralized way. In other words, within hierarchies certain parties are very authoritarian and as such main responsible. The last model of co-ordination is that of a network, networks provide us with the possibility to achieve results by different actors operating together, networks are often placed somewhere in the area between hierarchy and markets. Whereas markets are competitive, and hierarchies are very bureaucratical, networks are characterized by cooperation rather than hierarchy or competition (Exworthy, Powell & Mohan, 1999). Due to the introduction of network theory, cooperation has gained more emphasis. Many challenges within modern society are difficult to manage as a single public authority (Lundin, 2007). Interorganizational cooperation is seen as important to help administrators implement policy in a successful way (Lundin, 2007). As explained in the introduction of this research, the desire for the provision of open data by municipalities has only become apparent just recently. The expectation thus is that municipalities are still figuring out how to implement policy on the matter of making their data openly available in a successful way. Looking into all forms of cooperation is not feasible, taking into account the timespan in which this research is conducted. Within the remainder of this research, the focus will be on public sector cooperation, which can be defined as *the interactions among actors aiming at solving public problems by working together rather than by working separately* (Lundin, 2007); public private cooperation will thus be neglected. The expectation is that due to the fact that all municipalities are expected to provide open access to data, looking into cooperation between municipalities and between municipalities and other government organizations is most valuable.

Different factors drive municipalities to cooperate, resource interdependency and goal congruence being the most important ones (Lundin, 2007), in the case of the provision of open data, we expect that all municipalities have the goal to provide open access to their data, and therefore are motivated to work with one another. If municipalities cooperate, many different benefits can be identified. From a network theory perspective, cooperation is thought to enhance learning, increase efficiency of resource usage, increase the capacity to work on complex problems, creates competitive advantages and has the potential to improve services for clients and customers (Provan & Kenis, 2008). Other major benefits are found within inter-municipal cooperation theory; these benefits are benefits from an economic and political cost perspective (Gerber & Gibson, 2005; Hulst & van Montfort, 2007). Inter-municipal cooperation theory states that cooperation between smaller entities, can lead to higher economic efficiency. Individual municipalities often do not have the resources to meet up with the services they are expected to deliver. Working together can help them reach the economic resources to do so and thus help them to meet up with more expectations; this is called the creation of economies of scale. Cooperation has many benefits compared to other actions to reach economies of scale, such as merger. Cooperation avoids big transaction costs, and lets municipalities keep their own identities

rather than creating one, big, new, administrative organization (Hulst & van Montfort, 2007). However, cooperation also faces some barriers. A lack of trust between potential partners can cause cooperation to be inefficient; cooperation will only thrive, if the cooperating partners are willing to work together. Cooperation might create more deadlock situations, because of the involvement of more decision makers and no hierarchical provision to decide (Hulst & van Montfort, 2007). Secondly democracy may be jeopardized by cooperation, because decision making is likely to be less under control of citizens. Both the control on the budgets involved and the provision of information are harder for municipalities when they cooperate than when everything is coordinated within just the one municipality.

The drivers and barriers that are in play when it comes toward municipal cooperation have now been identified. But how can municipal cooperation be organized?

Nunn & Rosentraub (1997) developed a framework that proves very helpful when studying the way in which cooperation between organizations is organized.

Within their framework, Nunn & Rosentraub (1997) distinguish 4 dimensions when looking at municipal cooperation. First off there is the objectives/issues dimension, this dimension addresses what the objectives are, and defines objectives of municipal cooperation in five broad groups differing from mutual gain, to redistribution. Redistribution is more likely to lead to political resistance, than mutual gain. If there is something to gain for both parties, cooperation will face less political resistance than when resources are to be redistributed. This fact has been acknowledged by Hulst & van Montfort (2007) as well. Scarcity and distribution of resources will determine if interdependencies between participants are either symbiotic, or competitive. Secondly there is the institutional format dimension, dependent on what kind of format is chosen, the autonomy that remains for a municipality differs. The formality of such a format, is the third dimension, the less formal an approach, the more autonomy a municipality keeps. Formats can either be very formal, very informal, or somewhere in between. An example of a formal form of municipal cooperation is the establishment of a regional corporation to which specific tasks are transferred (Hulst & van Montfort, 2007). In such a case a jointly controlled board or council governs a staff of officials that are involved within service delivery or policy making processes. An example of an informal form of municipal cooperation is a loosely coupled policy network. These kinds of networks leave actual management in the hands of local governments and are often used for consultation, coordination and joint decision making on specific policy fields. In both cases such networks can be viewed as institutions with formal values, rules and norms that create a framework for interaction between the participants within the network. Such a framework gives every actor a position, regulates decision making and defines authorities within the network (Hulst & van Montfort, 2007). As the framework of Nunn & Rosentraub (1997) shows below, all kinds of forms in between those two are possible as well.

The fourth and last dimension of municipal cooperation concerns the outcomes. The improvements municipal cooperation can bring are aligned among four different dimensions within this framework. These improvements can either be on the matter of economic development, better municipal services, better physical environment or socio political, such as more widespread citizen participation, and are interrelated. The framework of Nunn & Rosentraub as explained looks as follows.

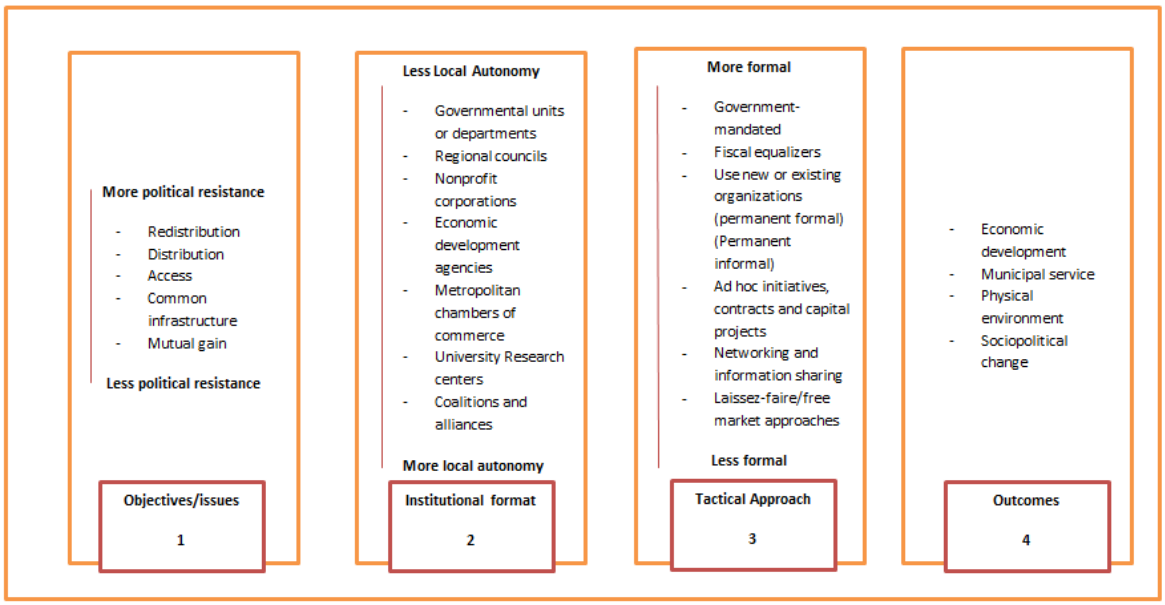

Figure 3: A framework including the dimensions of municipal cooperation (Nunn & Rosentraub 1997)

The second and the third dimension included within the framework of Nunn & Rosentraub can prove very helpful when studying the way in which cooperation is organized for the different municipalities. However, this only gives us information about the organization of cooperation at an institutional level and no insights in the actual cooperation on a day to day basis. Therefore, it is of utmost importance to understand how different municipalities actually cooperate on a day to day basis. Lundin (2007) measured cooperation within his research on the Swedish labor market case. He operationalized the way in which cooperation was actually done, by looking into three different matters; first off he looked into the fact if cooperative groups between different municipalities were established, either at the caseworker level or the managerial level. Secondly the intensity of the contact was measured, by investigating if caseworkers had contact with one another on a daily basis, or more seldom. Thirdly he checked if formal collaborative contracts were signed on which working together was based. Another research considering cooperation is a case study according to cooperation within the construction of 60km/h zone within the Dutch Municipality Hof van Twente. Within this research the way in which different municipalities cooperated is identified. A distinction is made between personal contacts, contact by phone, or written contact, such as contact through e-mail or letters (Amelink & van Gent, 2008).

When combining the theory on cooperation that has been explained until now, a theoretical model which is to be used when studying municipalities on their cooperation practices and the extent to which they provide open access to their data can be formulated.

As explained municipalities often lack resources to do all on their own, cooperation thus is a good means to reach economies of scale, gain more expertise and increase the power of different municipalities to fulfill their tasks. The extent of resource sharing within a cooperation initiative therefore needs to be measured. Additionally, Nunn & Traub (1997) their model, explains that there are many different institutional formats and tactical approaches towards cooperation, differing from informal, to formal, the way in which cooperation is organized, might have an influence on the extent to which the cooperation is effective and as such its performance, therefore the extent to which a

cooperation initiative is formalized, is included in our model. Last but not least, the way in which different municipalities have contact with one another might have influence on the effectiveness of cooperation.

2.3 SUMMARIZING KEY CONCEPTS AND FORMULATING A THEORETICAL MODEL

So far many different theories and concepts have come across. This section aims to provide a table with an explanation of the most important concepts in terms of this research paper, the table gives a brief explanation of why these concepts are important, what the concept consists of, and based on whose theories the concept has been formulated. Based on the main concepts presented in the table, a model is designed to measure the relationship between cooperation and the availability of open data.

Concept	Importance in terms of this research	Definition/criteria	Source
Open Data	Key concept: dependent variable. Important for understanding of what open data is, and to provide parties that are contacted to ask about their cooperation on this matter with insights on what is meant by open data.	1.Irrevocable free access anywhere in the world 2. Right to copy, use, distribute, transmit, display publicly for everyone 3. Right to make and distribute work based on the data 4. Data must be available through at least one online repository with a long term archiving capability	Klump et al. (2006)
Functional manner of studying policy domains → availability of open data	Looking into different policy domains. On which open data is made available in a functional manner. Can be used to define the extent to which different municipalities make their data openly available.	Issues that define a domain share inherent substantive characteristics, domains are formulated to be logical and coherent	Burstein (1991)
Availability of data	The availability of open data is the main indicator for the extent to which municipalities provide open access to their data. Based on the functional manner of studying policy domains, different domains are distinguished to measure the availability of open data.	**Domains distinguished based on previous research are:** Finance and Economy, Environment, Health, Energy, Education, Employment, Transportation, Infrastructure, Population	Veljkovic (2011)
Adaptability of data	Data can either be inert or adaptable, the more adaptable the data, the more useful the available data, therefore it is worth it to look into the adaptability of the data made available by different municipalities	**Inert** Unstructured data Semi-structured data Structured data **Adaptable**	Yu & Robinson (2011) , Vincey (2012)
Cooperation	Key concept: independent variable. Understanding cooperation in terms of this research is important because cooperation is a key variable within the research. Cooperation needs to be clearly defined within a survey, so the parties filling in the survey understand what is actually researched.	**Within this research:** public sector cooperation: The interactions among actors (in the public domain) aiming at solving public problems by working together rather than by working separately	Lundin (2007)
Drivers for cooperation	The drivers for cooperation must be known to understand why municipalities would cooperate.	**Drivers for cooperation are:** 1) Goal congruence 2) Resource interdependency 3) Trust	Lundin (2007); Hulst & van Montfort (2007)
Benefits of cooperation	The benefits for cooperation must be known to understand how municipalities could possibly benefit from cooperation	**Benefits are:** 1) Enhanced learning (expertise sharing) 2) Increase efficiency of resource usage 3) Increase capacity to work on complex problems 4) Improvement of services	Provan & Kenis (2008), Hulst & van Montfort (2007)

		5) Competitive advantages 6) Economies of scale	
Barriers to cooperation	The barriers cooperation might cause and the negative influence cooperation could have must be known in order to understand why cooperation could fail.	**Barriers are:** 1) A lack of mutual trust 2) More deadlock situations due to more decision makers involved 3) Jeopardizing democracy because decision making is less under control of citizens.	Hulst & van Montfort (2007)
Dimensions of municipal cooperation	The dimensions of municipal cooperation help determine the way in which cooperation is organized, and therefore are important to find an answer on the main research question: *Does cooperation between municipalities on the topic of open data improve the provision of open data by municipalities?*	**4 dimensions can be distinguished:** 1) Objectives of the cooperation initiative 2) The institutional format 3) The tactical approach 4) The outcomes The second and third domain should be studied using questionnaires, to find out how the cooperation initiatives of different municipalities are organized. For dimension one we assume that the cooperation initiative has mutual gain as a goal. Dimension four is not measured since it is not clear what the situation was like before the municipalities started cooperating	Nunn & Rosentraub (1997)
Day to day activities municipal cooperation	What does the municipal cooperation look like in terms of day to day activities? So how does it work in practice? Knowing what practices different municipalities use within their cooperation, helps determine the way in which cooperation is organized. Therefore looking into the day to day activities is important to find an answer on the main research question.	Measuring cooperation: 1) Cooperative groups established (caseworker level or managerial level) 2) Intensity of the contact (daily, weekly,monthly, more seldom) 3) Formal collaborative contracts signed? 4) Way of contact: by phone, written, e-mail.	Lundin (2007), Amelink & van Gent (2008)

Table 3: Summarizing the key concepts in terms of this research

Based on the key concepts explained in the table above, the following ways to measure the available open data and to measure the cooperation can be defined.

To measure the available open data this research will look into:

1) The different domains on which data is shared by different municipalities (based on the functional manner of studying policy domains and the domains formulated by veljkovic)
2) The usefulness of the data that is shared by different municipalities (based on the adaptability axis of Yu & Robinson (2011) and Vincey (2012)

To measure how cooperation is organized this research will look into:

1) The extent to which resources and expertise are shared within the different cooperation initiatives (based on the benefits of cooperation as witnessed by Provan & Kenis (2008) and Hulst & van Montfort (2007))
2) The institutional format and the formality of the tactical approach (based on the framework of Nunn & Rosentraub (1997))
3) The characteristics of the day to day cooperative activities (based on Lundin (2007) and Amelink & van Gent (2008))

Since this research supposes that the way in which cooperation is organized has an influence on the available level of open data, the following model to measure the relationship between cooperation and the availability of open data has been designed.

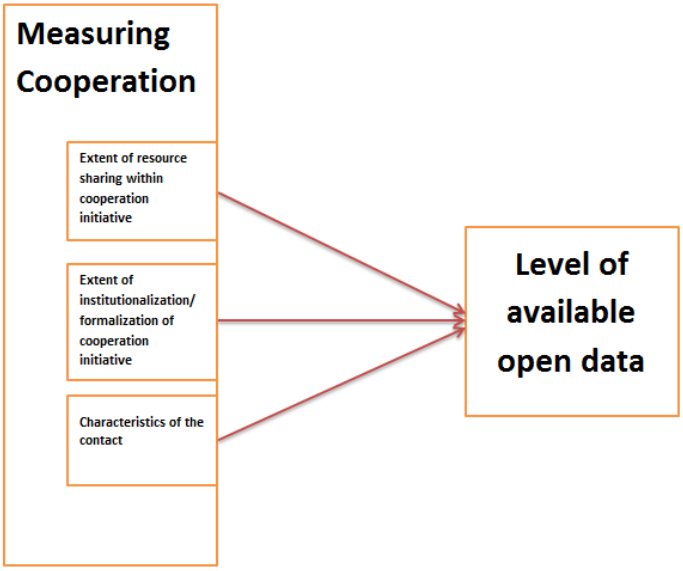

Figure 4: A model for measuring the relationship between cooperation and the availability of open data

Based on all that is known now, different hypotheses on the relationship between the provision of open data and cooperation can be defined. The next section of this chapter will provide these hypotheses.

2.4 HYPOTHESES ON THE RELATION BETWEEN THE PROVISION OF OPEN DATA AND COOPERATION

Within the previous three sections theories relevant for answering the main question of this research have been elaborated on.

In this section hypotheses based on the theories explained within the previous sections are formulated.

When looking into the relation between cooperation and the provision of open data in general, one hypothesis can be formulated. This hypothesis is the following:

H1: *A higher extent of cooperation among municipalities in general has a positive influence on the provision of open data by municipalities.*

However, cooperation is measured in three ways. The *extent of resource sharing within the cooperation initiative* is measured; this means that the means that are used to share resources are investigated, this could either be an exchange of personnel/expertise, or starting a repository together to save costs, for example. The *extent to which the cooperation is formalized* is looked into, and the *way in which day to day cooperative activities are organized between municipalities* is investigated.

This leads us to the formulation of three more hypotheses:

H2: R*esource sharing has a positive influence on the provision of open data.*

H3: *Formalization of the cooperation initiative has a positive influence on the provision of open data.*

H4: *The way in which day to day cooperative activities are organized has an influence on the provision of open data. More specifically, more frequent contact is likely to have a positive influence on the provision of available open data*

All these hypotheses will be investigated and are either confirmed or rejected within the data analysis chapter of this research. This will be done based on statistical analysis, more will be told about the research methods within chapter three of this research.

3. METHODOLOGY

In the previous chapter relevant literature to be able to answer the main research question "*Does cooperation between municipalities on the topic of open data improve the provision of open data by municipalities?"* has been elaborated on. This chapter aims to give a clear overview of the research methods that are used to answer the sub research questions, and ultimately the main research question. The chapter will start with a description of the research design and then the units of analysis will be explained. To continue with an explanation of the methods which are used to collect and analyze the data. The chapter will conclude with an overview of the advantages and disadvantages of the chosen design and methods.

3.1 RESEARCH DESIGN

Within this section the research design followed to answer the main research question and its sub research questions, is explained. The research follows a cross sectional research design. A cross sectional design involves observations of a cross section of a population that are made at one point in time (Babbie, 2007). Different municipalities are studied to find out if a relationship is present between the extent to which they cooperate with other governmental organizations on the topic of open data and the extent to which they provide open access to their data. The research aims to look at the state of cooperation and open data sharing at one point in time, to wit, April 2016.

3.2 UNITS OF ANALYSIS

As of the first of January 2016, the Netherlands consists of 390 different municipalities. Since this research aims to find out if a relationship is present between the provision of open data by these municipalities and the extent to which cooperation is present on the topic of open data for these municipalities, these municipalities need to be investigated. However, this research is conducted within a time span of five months; rendering it unfeasible to study all 390 municipalities within the Netherlands, let alone all municipalities worldwide. Thus this research studies a select subgroup of Dutch municipalities. The subgroup chosen consists of all middle-sized Dutch municipalities. Middle-sized municipalities are defined as municipalities with 50.000 to 100.000 inhabitants. The group of middle-sized municipalities is chosen because it is expected that these municipalities are big enough and have enough capacity to actually take into account the topic of open data but not enough capacity to do everything alone. Whereas smaller municipalities might lack the capacity to take into account the topic at all, and larger municipalities might easily provide open access to their data without cooperating with other parties.

The group of municipalities that has been selected consists of 45 municipalities. The inhabitants for 44 out of 45 municipalities have been based on the demographic numbers per municipality as reported by the CBS. The amount of inhabitants for the municipality Gooise meren, which did not exist until the first of January 2016 has been estimated through a publication of the municipalities of Naarden, Muiden & Bussum, which together became the municipality Gooise Meren. The figure to the right shows a figure of the selected municipalities, created with google fusion charts and a kml file provided by imergis (imergis, 2016). The table below has been created using the data of CBS and of the three former municipalities that became the municipality Gooise Meren (CBS, 2015; gemeenten Naarden, Muiden & Bussum, 2015).

Figure 5: In green: an overview of the municipalities within the sample of this research

Province	Municipality	Inhabitants	Province	Municipality	Inhabitants	Province	Municipality	Inhabitants
Drenthe	Assen [1]	67.165	Noord-Brabant	Oss [16]	89.799	Utrecht	Veenendaal [31]	63.440
Drenthe	Hoogeveen [2]	54.860	Noord-Brabant	Roosendaal [17]	76.874	Utrecht	Zeist [32]	61.641
Flevoland	Lelystad [3]	76.418	Noord-Holland	Amstelveen [18]	87.162	Utrecht	Nieuwegein [33]	61.264
Friesland	Heerenveen [4]	50.141	Noord-Holland	Heerhugowaard [19]	53.554	Utrecht	Woerden [34]	50.631
Friesland	Smallingerland [5]	55.635	Noord-Holland	Den Helder [20]	56.483	Utrecht	Stichtse Vecht [35]	63.943
Friesland	Súdwest-Fryslân [6]	84.164	Noord-Holland	Hilversum [21]	87.161	Zeeland	Terneuzen [36]	54.577
Friesland	De Fryske Marren [7]	51.213	Noord-Holland	Hoorn [22]	71.880	Zuid-Holland	Capelle aan den Ijssel [37]	66.478
Gelderland	Barneveld [8]	54.703	Noord-Holland	Purmerend [23]	79.611	Zuid-Holland	Gouda [38]	71.105
Gelderland	Doetinchem [9]	56.484	Noord-Holland	Velsen [24]	67.166	Zuid-Holland	Katwijk [39]	63.633
Limburg	Heerlen [10]	87.500	Noord Holland	Gooise Meren [25]	56.405	Zuid-Holland	Schiedam [40]	76.869
Limburg	Roermond [11]	57.005	Overijssel	Almelo [26]	72.291	Zuid-Holland	Vlaardingen [41]	71.645
Limburg	Sittard-Geleen [12]	93.724	Overijssel	Deventer [27]	98.540	Zuid-Holland	Lansingerland [42]	58.133
Noord-Brabant	Bergen op Zoom [13]	66.320	Overijssel	Hardenberg [28]	59.577	Zuid-Holland	Leidschendam-Voorburg [43]	73.979
Noord-Brabant	Helmond [14]	89.718	Overijssel	Hengelo [29]	81.059	Zuid-Holland	Nissewaard [44]	85.121
Noord-Brabant	Oosterhout [15]	53.793	Overijssel	Kampen [30]	51.432	Zuid-Holland	Krimpenerwaard [45]	54.208

Table 4: The municipalities within the sample of this research

3.3 METHODS OF DATA COLLECTION

To be able to answer the different sub research questions and ultimately the main research question, much information needs to be gathered. Section 2.3 already provided us with a description of what would need to be collected. Within this section the data that needs to be collected will be explained into further detail. Then the ways in which the data will be collected is explained.

To define what data must be collected in terms of this research, the research must be split into smaller parts. When analyzing the main research question "*How can cooperation between municipalities on the topic of open data improve the provision of open data by municipalities?*" one could say this question could basically be split into three steps:

1) Find out the status of the provision of open data of the different municipalities at this moment.
2) Find out if municipalities cooperate on open data and how this cooperation is organized;
3) Find out if relationships are present between the ways in which cooperation is organized and the provision of open data by the different municipalities;

The first two steps require the collection of data, how data collection will take place for both of these steps, is described within section 3.3.1 and 3.3.2.

3.3.1 COLLECTING DATA ON THE PROVISION OF OPEN DATA BY MUNICIPALITIES: SECONDARY DATA COLLECTION

To find out what the provision of open data by different municipalities looks like, both the survey and secondary data collection and analysis can provide useful insights. Within the survey the following questions to find out more about the provision of open data are asked:

1) In what stage is your municipality on the topic of open data, an internal, explorative stage, a stage in which open data is made available, or an external stage in which other parties are contacted to reuse the data?
2) How many datasets does your municipality make openly available?
3) On which of the following domains does your municipality make datasets openly available?
4) Through what data portals does your municipality make its data openly available?

When it comes to secondary data collection one can refer to section 2.2, where open data was defined following the definition of Klump et al. (2006).

Following that definition data must be irrevocable, everyone must have the right to copy, use, distribute transmit and display the data or work based on the data publicly, and the data must be available through at least one online repository with a long-term archiving capability.

Thus it is important to find out which online repositories exist. Different things must be analyzed to be able to conclude what datasets the different municipalities share. First off, does the municipality have its own repository? Or does the municipality deposit datasets at an alternative repository, such as for example the Dutch national repository, data.overheid.nl? This will be analyzed by browsing the selected municipalities' websites, and by searching through other data repositories. A double check will be done by asking municipalities if there are other ways in which they

provide their data openly, if this appears to be the case, data that is made available through these other channels will be taken into account too. Last but not least, it is of utmost importance to check if there are any duplicates within the data that is made available through the different repositories, if this appears to be the case, the duplicates need to be listed properly so they are analyzed and counted just one time. The way in which the collected data according to open data provision by the different municipalities will be analyzed, is explained in section 3.4.1.

3.3.2 COLLECTING DATA ON COOPERATION AND THE WAY IN WHICH COOPERATION IS STRUCTURED: SENDING OUT A QUESTIONNAIRE

To gain insights on the fact if municipalities cooperate on open data and how this cooperation is structured, a survey questionnaire will be send. A questionnaire is the perfect tool to gain more insights into cooperation in terms of this research, because questions on the topic of cooperation could be formulated pretty straightforward, based on the distinctions that have been presented within section 2.3.2, additionally answering the questions that are necessary to be asked, is thought not to be very time consuming, and can probably be done within ten minutes. It is of vital interest for this research that the survey questionnaires are filled in by key persons on the domain of open data for every municipality. The contact details of these persons thus need to be obtained by contacting the municipalities through e-mail beforehand. The e-mail that is sent to the municipality must stress the importance of the research, and explain that the research can provide them with valuable practical information about their open data provision compared to other municipalities. By targeting just a subgroup of municipalities, it is easier to appropriately target the right persons early on, in order to improve the response rate.

This section will aim to give an explanation of how a proper survey is conducted. More according to how cooperation is operationalized in terms of this research can be found within section 3.4.2, this operationalization provides the tools to ask the right questions within the survey. Questionnaires can be a great tool for the collection of great amounts of data for relatively low costs, from many different people. Which gives a researcher the possibility to fairly easy generalize findings to a certain population as long as the sample has been drawn properly (Kelley et al. 2003). Great potential can be found in questionnaires when studying trends or evaluating progress (Baruch & Holtom, 2008). A downside to the use of questionnaires however, is that the gathered data often lacks details, obtaining a high response rate is hard, and questionnaires often lack detail. Vital within questionnaire research, is that the right questions are asked, that these questions are easy to answer, and that an appropriate response rate is obtained, to say something useful about the population (Kelley et al., 2003). When conducting questionnaire research, three different important stages can be distinguished.

First off, we need to make sure that the questionnaire is sent out to the right public; secondly a good cover letter must be used to introduce the questionnaire. A good cover letter has proven to have a positive effect on the response rate on questionnaires. A well written cover letter should give incentives, inform about the organization conducting the research, provide contact details, explain why a certain respondent was selected, give a good estimation of how long it will take to fill in the questionnaire and should clearly state why it is of great importance that the organization responds (Andrews et al., 2003; Greer et al.,2000; Kelley et al.,2003, Kaplowitz et al.,2011;). Involving a invite button to go to the questionnaire in the bottom of the cover letter has proven to have a positive influence on response rate as

well (Kaplowitz et al.,2011). If not enough response is obtained on a questionnaire, sending a reminder can increase the response rate (Greer et al.,2000;).

Thirdly, the right questions need to be asked and the design of the questionnaire should be clear. If questions that are necessary to measure certain relations, are not asked, it will be impossible to answer the research question of this research. It thus is of utmost importance to make sure all information we need to know in terms of answering the research question, actually is provided, when the questions that are formulated are answered. It should not take too long to answer the questions asked (Kelley et al.,2003). Only demographic data that is necessary for a good analysis of the data should be asked, since demographic data is closely related to privacy by respondents. In terms of this research, we would only need to know what the role of the person filling in the questionnaire at the municipality is, and on behalf of what municipality he is filling in the questionnaire. Prior to sending out our questionnaire, much attention thus must been given on contacting the right people, writing a good cover letter, and designing the questionnaire appropriately to be able to answer the research questions.

3.4 METHODS OF DATA ANALYSIS

So far the methods that are used to collect the data necessary to answer the research questions have been explained. To gain more insights on the provision of open data, provision of open data must be operationalized; section 3.4.1 will give an operationalization of the provision of open data. Within section 3.4.2 cooperation will be operationalized. This section will then conclude with an explanation of the steps that must be taken to analyze the different data in an appropriate manner.

3.4.1. OPERATIONALIZING THE PROVISION OF OPEN DATA

Since this research aims at measuring the provided open data of every municipality, decisions must be made on how to measure what data every municipality provides. Following the definition of a repository of Bernstein & Dayal (1994), who stated that a repository is "*a shared database of information about engineered artifacts produced, or used by an enterprise".* One could argue that the enterprise in our case is the municipality, and that the municipality therefore should have one database in which it manages all information it produces. Therefore the decision was made to look at one portal for every municipality, this can either be a portal at a municipalities own website, or a portal provided by another party.

But then how to measure the provision of open data in terms of quantity, completeness and usefulness of the provided open data? Section 2.1 of the theoretical framework has provided a stylized framework to consider the different dimensions of open data delivery.

Two dimensions were formulated; the first dimension incorporates the adaptability of data, whereas the second dimension sorts datasets according to type (service provision or public accountability). Section 2.1 as well explained that policy domains can be studied in a functional manner, in which unambiguous domains are chosen. Within this section the provision of open data will be operationalized for measurement in two ways:

1) As explained within chapter two, this research will measure the amount of available open data by looking into the domains on which different municipalities provide open access to their data, and by counting the total amount of datasets that the municipality made available.
2) As explained in chapter two as well, the usefulness of the datasets that are made available by the different municipalities will be thoroughly checked as well. Unstructured data is less useful than structured data, and should therefore be measured. Municipalities that only make unstructured datasets available, should score worse than municipalities that make datasets available on the same domains, but have all of these datasets structured.

Measuring the provision of open data by looking into the amount of open data provided by the different municipalities in gigabytes has been considered. However severe downsides could be identified in this method. First off it could be the case that a certain municipality makes data available in such a format that takes more space in terms of gigabytes than others. Secondly, smaller municipalities might be providing open data on more domains than bigger municipalities, but due to the fact the bigger municipalities have more gigabytes of data on a single topic, it might still appear as if the bigger municipality provides better open access to its open data than the smaller municipality. Looking into different domains on which municipalities provide their data, the amount of datasets and looking into the usefulness of these datasets thus is more suitable for comparing different municipalities.

As explained within section 2.1, to reach an unambiguous selection of domains, policy domains should be formulated in a functional manner. When selecting domains on which different municipalities provide open data, it is of high importance that such domains give a complete and unambiguous overview too. Nine domains based on academic literature have been presented within section 2.1, although it must be made sure if these categories give a complete unambiguous overview of the domains on which different municipalities provide open access to their data. Within this research the proposed categories as formulated by Veljkovic et al. (2011) are followed, but a check is executed prior to the data collection, to see if no domains are missing within their listing. If other domains can be found, which provide no problems according to ambiguity, they will be added prior to the data collection. If, during the analysis of the data, it appears to be the case that datasets cannot be sorted within the formulated domains, a reasonable ground will be sought to define a new domain. If this does not appear to be possible, the data will be labeled as 'other' data.

Within his benchmarking study, Vincey makes the following distinction of open data domains:

1) Economy
2) Geography
3) Education
4) Society
5) Environment & transport
6) Energy
7) Demographics
8) Health
9) Jobs

When looking at data.overheid.nl a distinction in 17 different themes is made, this distinction can be seen in the figure below.

Figure 6: Data themes within the catalogue of data.overheid.nl

As explained earlier, the domains of Veljkovic are followed, but additions can be made based on the found data, or based on the domains formulated by others. When comparing the domains of Veljkovic with the domains of Vincey, it appears that all of the domains formulated by Vincey, fit within the domains formulated by Veljkovic et al. Looking at data.overheid.nl however, the category 'bestuur' which means administration is found. This category seems to be lacking within the domains formulated by Veljkovic et al.

The administration category on data.overheid.nl appears to consist of several types of data, varying from data considering elections, to data about legislation, government plans and administrative documents. Based on these findings three new categories are formulated. These categories can be found within the table below.

Domain	Examples of data within domain
Finance and Economy [1]	Government Budget, annual budget plans, income, expenditures, donations, scholarship funds, taxes and revenue, poverty, wealth, investments
Environment [2]	Meteorological data, pollution, emissions, garbage collection
Health [3]	Social care, hospitals, nursing homes, pharmacies
Energy [4]	Energy consumption, energy savings, monthly energy prices
Education [5]	Schools, faculties, students, universities, private schools, exchange programs
Employment [6]	Percentage employed/unemployed citizens, tracks of open positions in enterprises and firms
Transportation [7]	Roads, maps, streets, public transport advisories,

	schedules
Infrastructure [8]	Plans, roads, maps, streets, building sights, permits
Population [9]	Births, deaths, marriages, divorces
Elections [10]	Election results, location of voting stations
Legislation [11]	Laws, Licenses
Government plans and administrative documents [12]	Council minutes, municipal service reviews

Table 5: Different data categories and examples of data within these categories as defined by Veljkovic et al. (2011) with additions based on missing data

The domains listed above, will be the basis on which different datasets will be sorted. The provided open data will be measured by taking into account at how many of the 12 different domains different municipalities are already providing open access to data. If during analysis it appears to be the case that some datasets cannot be sorted, the domains need to be looked into once more.

Apart from the availability of datasets as explained above, the usefulness of the different datasets will be taken into account. The adaptability axis presented within the framework of Yu & Robinson (2011), suggested that distinctions can be made in the adaptability of data. Since this research aims to look into the provision of open data, totally inert data won't be found, simply because this data does not meet the open data requirements as formulated. However, when providing open data, data can still be structured in different manners. I propose that different structures accord to different levels of usefulness of data. To define different structures this research follows the distinction made by Vincey (2012), the table below once more presents the different structure categories.

Distinction	Description of the data	Example extensions
Unstructured data [1]	Text data, this type of data is not properly readable by a machine, but can be read by humans, this type of data could be classified as inert	.doc , .rtf , .txt , .pdf , .html
Semi-structured datasets [2]	Data that is available in tabular form and can be read by a machine, but which requires some scraping before effective use	.csv , .xls , .ods
Structured datasets [3]	Data can be read by a machine and is ready to be used for development of other applications or innovative ideas	.xml , .json , .rdf , .shp , .kml, .gtfs

Table 6: Data structure categories as formulated by Vincey (2012).

The more structure a dataset has, the more useful it is for citizens. It might be the case that municipalities make their data available, using other extensions than the example extensions provided here. If other extensions are found, more

information about the extension must be gathered so data using different extensions can be sorted in one of the three data structure categories, where unstructured data is seen as the least valuable, and structured data as the most valuable.

The other axis of the framework of Yu & Robinson (2011), involves the difference between the goal of disclosure, is neglected. Within this research we decided to look into the domains on which the different municipalities make their data available instead, since this is a better indicator of the actual extent to which municipalities make their datasets available.

During the data collection every dataset will be coded on different variables. First off the source where the municipality makes its datasets available will be listed. Then the datasets will be counted to indicate how many datasets every different municipality makes available. Secondly, datasets will be coded based on the domain they belong to. Every distinct domain received a number from 1 to 12, every single dataset will be coded based on the domain it belongs to. This provides us with the possibility to see on which domain every municipality makes its data available. And thirdly, every dataset will be coded on structure, where unstructured data corresponds to number 1, semi structured data corresponds to number 2 and structured data responds to number 3. This gives us the possibility to see how useful every dataset is for every municipality. The codenumbers for the domains, structure and municipalities can be found within table 4, 5 and 6.

In example: A dataset made available through www.municipality-X.nl/opendata called 'election results municipality X' made available by the municipality X and in PDF format will appear in excel as follows.

Name	Repository	Amount of datasets	Domain	Structure
Election results municipality X	www.municipality-X.nl/opendata	24	10 (corresponding with elections in table 5)	1 (corresponding to unstructured data)

Table 7: Example of the coding of the different available datasets.

3.4.2 OPERATIONALIZING COOPERATION

Section 2.2 provided us with an overview of how cooperation has been measured in prior studies. Within this research the measurement of cooperation will be done by operationalizing the cooperation along the lines presented within section 2.3.

To measure how cooperation is organized this research thus will look into:

1) The extent to which resources and expertise are shared within the different cooperation initiatives (based on the benefits of cooperation as witnessed by Provan & Kenis (2008) and Hulst & van Montfort (2007))
2) The institutional format and the formality of the tactical approach (based on the framework of Nunn & Rosentraub (1997))
3) The characteristics of the day to day cooperative activities (based on Lundin (2007) and Amelink & van Gent (2008))

To gain more insights on these matters, a questionnaire will be designed and sent out to policymakers who are part of the department with the responsibility for the topic "open data" for every municipality. By doing so, proper insights can be gained on cooperation, the people responsible for the topic open data are likely to know if they share resources, personnel or other expertise, or a data repository with other municipalities. They are as well likely to know how the daily cooperative activities are characterized (i.e. do they cooperate on a daily basis, in what way do they contact one another, does this happen on managerial or caseworker level?). Proper insights on the institutional format and the tactical approach considering cooperation on the topic of open data could as well be gained this way. The people responsible for the topic "open data" within a municipality are likely to know within what cooperative initiatives they work together with other parties on this topic, and how this cooperation is formalized.

The answers provided on the questions asked within the questionnaire, will be coded in SPSS for every municipality that fills in the survey questionnaire and should give appropriate insights on the "cooperation on the topic of open data" variable of this research.

3.4.3 STEPS OF DATA ANALYSIS

Within the previous two sections, it has been clarified that data will be collected on the provision of open data and on cooperation on the topic of open data. The ways in which this is bound to happen have been explained thoroughly too. Summarizing, the provision of open data is measured in three ways. First off the amount of different datasets a municipality makes available is measured. Secondly the domains on which municipalities share data are investigated. Thirdly the usefulness of data is measured by investigating if datasets are unstructured, semi-structured, or structured. Cooperation is split into three different brackets. Questionnaires filled in by key policymakers from research departments of the different municipalities must explain how cooperation on the topic of open data is organized for each municipality. Ultimately, data on cooperation and on the provision of open data will be entered in SPSS for every municipality. A coding scheme will be provided to code everything appropriately. Ultimately we analyze the relationship between the available open data and the cooperation through statistical analysis. ANOVA tests, which are statistical tests used to analyze differences between groups, can probably provide insights in the extent to which certain cooperation variables seem to have a relation with the availability of open data.

3.5 ADVANTAGES, DISADVANTAGES AND THREATS TO VALIDITY

Within this section the advantages and disadvantages of the chosen research design, methods for data collection and methods for data analysis will be discussed. The purpose of this discussion is to validate the choices made according to the research design and data collection and analysis.

The cross sectional research design chosen within this research paper gives the ability to give a snapshot of the situation at one moment in time. Such a snapshot provides one with the ability to compare different municipalities on the way in which they organize cooperation on the topic of open data and the amount of open data that is provided by that municipality, at one point in time. The study can be used to prove or disprove assumptions and is a relatively cheap to undertake. However, such a design can just assume that cooperation has a positive influence on the sharing of data, but due to the study having no control group; it cannot determine the cause and effect. According to the

choice for survey questionnaires, the advantage is that such questionnaires can provide quantitative insights on the relation between the provision of open data and cooperation, because many different municipalities can be studied within relatively short time. Downsides of questionnaire research compared to interviews for example, is that no additional qualitative findings, can be identified, no personal communication with the people that are surveyed will be engaged in, thus insights remain merely quantitative and superficial.

Problems that might arise when conducting this research are the fact that municipalities might not want to participate, this due to the fact that open data is a new topic for municipalities and might not be seen as important for various reasons, such as them not having the capacity, or the culture within the municipality being one opposing provision of open data. The fact that a survey is not very time consuming, makes this less of a threat than when a qualitative approach would have been taken. Another threat to validity might lie in the fact that many external factors on which cooperation has no influence, might be influencing the provision of open data since municipalities have many individual characteristics, this problem is minimized by choosing a group of municipalities which is much alike in terms of size. Another factor that might be a threat to the validity of the research is the small N, which might render the research insignificant, although even if the results are not significant, but trends appear to be present, the research is still interesting. Investigating more municipalities in additional research, could solve this problem. Additionally it could be the case that municipalities haven't yet reached a phase in which they provide open access to data, or do not seem to be cooperating on the topic of open data. If this appears to be the case no relation between the amount of provided open data and the way in which the different municipalities cooperate can be found, resulting in merely descriptive results. Last but not least, the way in which the sample is chosen within this research might be a threat to the validity. Due to the fact that both small and big municipalities are neglected, the research is less generalizable; it could very well be the case that the findings only apply to municipalities with between 50.000 and 100.000 inhabitants.

4. DATA COLLECTION

Within this chapter the procedure of the data collection will be explained. As such this chapter will aim to explain what has been done in terms of the collection of data on the two main variables of interest within this research: the amount of data that the municipalities within the research sample make available as well as the extent to which and the ways in which the municipalities cooperate on the topic of open data. The first section will focus on explaining the way in which knowledge on the amount of data that the municipalities within the research sample make available was gained. It will mainly concern the way in which the secondary data analysis within this research was executed. The second section will focus on the way in which knowledge is gained on the way in which the different municipalities cooperate on the topic of open data. The selection procedure of participants as well as the way in which the questionnaire was designed will be explained within this section.

4.1 SECONDARY DATA COLLECTION: GAINING KNOWLEDGE ON THE EXTENT TO WHICH MUNICIPALITIES MAKE THEIR DATA OPENLY AVAILABLE

To gain more insights in the extent to which the municipalities studied within this research paper make their data openly available, secondary data collection has been conducted. This section of the research paper aims to explain

how the secondary data collection in terms of this research has been conducted and what sources have been consulted to gain insights on the extent to which the different municipalities make their data openly available.

In theory every municipality could have a different approach when it comes to the topic of open data. One municipality might host the data on its own website, whereas another municipality chooses to share all of its data on another, already existing platform. As such an extensive search for secondary data on the internet has been provided. The remainder of this section will give a brief explanation of how the provided open data of all municipalities has been located.

When locating open data from municipalities two main criteria were taken into account. First off, if the data was provided on a data portal that is primarily run by the municipality itself, it is counted in terms of this research. Secondly, if all data a municipality provides is provided through other open data portals, the datasets are counted only if the source states that the municipality provided the data or has ownership over the data, which implicitly implies that the municipality provided the data as well.

The first way in which provided open data of the different municipalities has been located is by looking at data.overheid.nl. Data.overheid.nl is the main data portal of Dutch government, and many different data owners have made data available on Data.overheid.nl. When searching for the municipalities that made data available through data.overheid.nl, the page https://data.overheid.nl/data/organization was used. This page gives an overview of all data owners that made data available on data.overheid.nl and the amount of datasets these owners made available on data.overheid.nl. Most of the data owners making data available at data.overheid.nl turned out to be provinces, research institutes and ministries. Only 20 out of the 122 data owners that make data available through data.overheid.nl turned out to be municipalities, of which only 2 municipalities were among the ones studied within this research.

The second way in which provided open data of different municipalities has been located is by looking into www.dataplatform.nl. Dataplatform.nl has been initiated by Civity, a private party that aims to connect the supplier of open data with the clients in a safe manner. A couple of municipalities have their own portals hosted under their own brand by dataplatform. Additionally, data of multiple other organizations which are not really participating in www.dataplatform.nl, can be found on dataplatform.nl as well. When looking at organizations, 30 out of the 45 municipalities who are partaking within this research were found. For most of these municipalities, just one dataset was present on dataplatform.nl, to wit a dataset concerning public lighting. For some of the municipalities however, more datasets were found. In the case of some of these municipalities, these datasets were as well present on their own dataportals, and as such shouldn't be counted double. The municipality of Schiedam, one of the municipalities within this research actually used the services of dataplatform.nl to host their own repository.

The third way in which open data of different municipalities has been located is by looking into www.opendatanederland.org. This website aims to bundle the descriptions of all Dutch open datasets within one catalogue and to make them easily searchable. As of now, 615 datasets have been indexed on this website. The

'organization' search was used to see of what organizations datasets could be found through this website. Open datasets for two of the 45 municipalities within this research were ultimately found through this website.

The fourth, but perhaps the most valuable way in which open data of different municipalities has been located is by using the search term: "open data <municipality> <municipalityname>" on Google and going through the first five pages of results that came up to see if a location could be found at which the municipalities make their data available in a centralized way. This resulted in hits with actual pages for eight of the municipalities. Four of these municipalities hosted the centralized pages filled with open data somewhere on their own website. One used dataplatform.nl another municipality used github and another municipality hosted a separate page. Number eight of these municipalities clearly stated they make use of buurtmonitor.nl to provide open access to their data.

This was reason the more, to check buurtmonitor for presence of different municipalities. Buurtmonitor is a product which uses SWING, a toolkit which provides users a graphical user interface and makes it easy for organizations to open up their geographical and statistical data. Over 100 Dutch municipalities in total use the swing package provided by ABF. Some of them use gemeenteincijfers, which is fully filled by the hosting company, ABF. Others use buurtmonitor, in the case a municipality uses buurtmonitor they have full responsibility and choice on what to add to their buurtmonitor. This could be data from the municipality itself, but as well from other organizations. Fourteen of the municipalities within this research are listed as users of buurtmonitor, whereas five use gemeenteincijfers. Data on gemeenteincijfers as well as buurtmonitor is downloadable. In essence one could say buurtmonitor rather could be interpreted as an open dataset instead of an open data platform, since it merely gives the possibility to offer a collection of geostatistics rather than raw, reusable data. When looking at how other, bigger Dutch municipalities interpreted buurtmonitor, it was found that buurtmonitor was interpreted as just one dataset among many, in the category "numbers and statistics" by the municipality of Utrecht on their dataplatform, Utrecht.dataplatform.nl. This validates our choice not to take into account buurtmonitor as an open data platform.

Within the data analysis chapter of this research, the way in which each source of data is taken into account is explained more extensively and the amount of datasets found through the channels taken into account, will be listed, and duplicates will be filtered.

4.2 SURVEY RESEARCH: GAINING KNOWLEDGE ON THE EXTENT TO AND THE WAY IN WHICH MUNICIPALITIES COOPERATE ON THE TOPIC OF OPEN DATA

Within this section an explanation of the execution of the survey questionnaire, which was carried out within this research, will be given. The section starts with a brief explanation of the criteria that were set for the questionnaire and then aims to explain how we made sure these criteria were met. It concludes with an overview of the response to the survey.

When designing the survey questionnaire in terms of this research paper, several criteria were taken into account. The three most important criteria are as follows. First off, the topic of the survey questionnaire and the questions asked within the survey questionnaire should be understandable for the respondents. Secondly, the survey questionnaire

should cover all three topics of cooperation characteristics that were formulated within chapter two of this research paper. It should make the extent to which resources and expertise are shared measurable, it should give insights on the chosen institutional format of the cooperation initiatives and their formality, and it should give insights in the characteristics of the day to day cooperative activities that municipalities undertake. Additionally some confirming questions on the topic of the channels through which open data are shared and the amount of open data that is shared. Could help to ease up the secondary data analysis considering the extent to which municipalities make their data openly available, and thus should be included. Last but not least, the right people should be contacted; the survey questionnaire should not take too long to fill in and should take into account confidentiality and privacy issues to make sure the response turns out sufficient. Reasons for this are the fact that the population of the survey questionnaire is an industrial one, which means that people who are targeted by the survey questionnaire are usually pre-occupied with work, and have to deal with company rules and policies (Greer et al., 2000; Couper, 2000).

Criterion 1: Making sure the topic of the questionnaire is clear, and understandable questions are used.

To make sure the topic of the questionnaire was clear, several precautions have been taken. Firstly the introductory e-mail for this research, gave a brief explanation of the goal of the research, as such introducing the topic of the survey questionnaire. Secondly, when starting the survey questionnaire, the first page displays an appropriate explanation of the interpretation of the key concepts in terms of the research: the concepts of open data and cooperation. Furthermore some tooltips were used on questions to explain either the question, or to refresh the respondents mind on how to interpret "open data" in terms of this research. When selecting question types, straightforward types were chosen, the questionnaire exists mainly of question batteries using likert scales, multiple choice questions and some open questions, and offers respondents the option to answer "I don't know" at all times. Ideally, this research would use validated questions, used within previous research and rewrite these questions to fit in the context of this research if proven necessary. Unfortunately the topic of this research is rather specific and rather new and therefore a complete validated questionnaire couldn't be extracted from previous research. However, part of a questionnaire designed by Pröpper et al. (2005), for their research on cooperation between local and regional authorities has been re-used. The questions that were re-used concern the topic formalization of the cooperation and the topic of motives for municipalities to cooperate with one another on the topic of open data. Last but not least, the questionnaire has as well been re-read and revised by Professor Aarts and Dr. Junjan, of the University of Twente, to make sure all questions were understandable and clear. And to make sure the questions were easy to understand, a test was done with two people these two people had no expertise with municipal cooperation and open data however, so this test only led to feedback in terms of sentence structure and grammar.

The complete survey questionnaire and a specification of the questions of Pröpper et al. (2005) that have been re-used can be found within appendix I.

Criterion 2: Covering all necessary topics to be able to answer the research questions of the research: the thoughts behind the questions within survey questionnaire.

To make sure all necessary topics were covered within the questionnaire, question groups were used when designing the questionnaire in limesurvey. The questionnaire starts with two questions of a general nature, asking respondents to

what extent they are involved with the topic open data, and to what extent they cooperate on the topic of open data. Then a group of questions called "your municipality and open data" follows. Within this question group respondents are asked in what stage they are when it comes to the topic open data, and the amount of provided sets of open data, the topics on which open data is provided, and the channels through which data is made openly available is asked for. As such this question group makes the secondary data analysis in terms of provision of open data easier. What follows are some questions considering "motives for cooperation on the topic of open data", the questions within this group have been used within previous research by Pröpper et al (2005). The questions introduce the respondent to the topic of "cooperation on the topic of open data" and provide us with information concerning the reasons why municipalities actually chose to work together on the topic of open data. It could be the case that it turns out that resource sharing, which is one of the ways to measure cooperation within this research, is a motive for cooperation for most municipalities. If resource sharing appears to be a motive, then resource sharing is likely to happen in practice as well. The question group that comes next is called "cooperation on the topic of open data in practice". The main goal of this question group is to provide insights on the extent of resource sharing within the cooperation initiative and insights on the characteristics of the contact: two of the three ways to measure cooperation in terms of this research. The last group of substantive questions concerns the extent of institutionalization and formalization of the cooperation initiative, and is called "formality of the cooperation", just like the question group concerning motives for cooperation; this question group consists of questions previously used by Pröpper et al. (2005) too, and aims to gain more insights on the way in which cooperation is formalized. The respondents are asked within which cooperative initiatives they are active, and to name these initiatives and as well the other parties that are active within this cooperative initiative. Additionally they are asked if they know the legal status of the cooperative initiative. Is the cooperation initiative defined as a public of private body and what type of public or private body is it? To help the respondent a website link to the site of the Dutch Association of Municipalities, explaining different public and private bodies is embedded within the questionnaire. Within the data analysis chapter of this research, the different types of public and private bodies within the Netherlands will be explained more thoroughly and then ranked on formality.

Criterion 3: Appropriate length, taking into account confidentiality and privacy issues and ultimately contacting the right people.

As earlier stated, people are usually busy at work, therefore the questionnaire in terms of this research, should not take too long to fill in. However, all the questions necessary to answer the research questions should be asked. The questionnaire has been designed to take approximately 10 minutes to fill in, much shorter would not deliver the necessary insights, and much longer, would be likely to lead to a rather low response rate.

At maximum a respondent would need to fill in 21 substantive questions, of which four are question batteries, and others are single - mainly multiple choices and single choice, but as well textual, numerical and arranging – questions. Due to the application of conditional formatting within the questionnaire, questions that seem irrelevant for the respondent due to earlier answers, are skipped, therefore respondents might be required to answer fewer questions in practice, and thus might spend less time. I.e. if a respondent clearly states his municipality is not cooperating with other municipalities on the topic of open data in the beginning, all questions concerning cooperation are skipped. The length of the questionnaire is communicated in a positive way by explicitly stating that we would like respondents to fill

in a “short questionnaire (about 10 minutes)” within the different cover letters and invitations for this questionnaire (Appendix II to VII). Confidentiality and privacy of respondents has been taken into account within the cover letter as well, by clearly stating that the personal details of the respondents would remain confidential. Additionally, the promise was made that all provided data of the different municipalities would be processed in an anonymous manner: as such this research won’t state what data find their origins at what municipality within the report. This confidentiality might make municipalities that haven’t reached an advanced stadium when it comes to the topic of open data, less reluctant to participate. As an incentive for participating every municipality has been offered the results as a reward for participation within the research.

To obtain the contact details of the appropriate respondents within each of the 45 different municipalities, first the organization chart of every municipality was checked, it appeared that for most municipalities the appropriate person would probably be working within the department of information provision and automation, or something alike. However, the contact details of these people couldn’t easily be found. Therefore an introductory email (Appendix II) has been sent to the city manager - who is the highest municipal official - of all 45 municipalities two weeks prior to actually opening the survey questionnaire. This e-mail introduced the research and asked every city manager if they could provide us with the contact details of a co-worker within the organization that has expertise on information provision, automation and open data, and who had expertise on open data and cooperation on the topic of open data. A week later, 24 municipalities had replied to the e-mail, providing contact details of the person to whom we could send the questionnaire. In some cases this person replied himself, in some cases the city manager or another co-worker replied. For the remaining 21 municipalities a reminder (Appendix III) was sent to the city manager. A week after sending this reminder, an invitation to the survey questionnaire was sent to the person of whom the contact details were provided. Three different invitation emails were used, the first invitation e-mail was sent to people who provide their contact details and stated they would want to fill in the questionnaire. This invitation is shown in Appendix IV. The second invitation e-mail was sent to people from whom we got the contact details from one of their co-workers, within this e-mail, it is clearly stated who provided us with the recipients contact details (Appendix V). The third e-mail was an invitation sent to the city manager, in which we kindly ask if the city manager could forward this e-mail to someone with expertise on the topic of open data and cooperation on the topic open data (Appendix VI). All of these invitations included unique invitational tokens within the survey URL, which make it possible to track which response origins from which municipality, and makes sure the questionnaire can only be accessed by using the invitational link. A week after sending the invitation, 20 survey questionnaires had been filled in completely, and 2 had been started. To the ones who did not yet fill in the questionnaire completely or did not respond to the questionnaire at all, a reminder was sent (Appendix VII). When the survey closed, 31 municipalities filled in the survey fully, which means they have filled in all questions that were relevant for them seeing the routing within the questionnaire differed for the different respondents based on the extent of cooperation on the topic of open data and the extent to which the municipalities take into account the topic of open data at all.

5. DATA ANALYSIS

Within this chapter the data that has been collected through both the secondary data analysis as well as the survey questionnaire conducted, is thoroughly analysed, based on the analysis of the data, the answers to the sub research

questions, and ultimately the research question are provided. The chapter starts with giving a brief overview of the response to the survey. The section that follows gives an overview of the secondary data collection, regarding the provided open data that has been found for all the 45 municipalities selected for this research. It as well provides some descriptive statistics for the questions regarding provision of open data that were asked within the survey questionnaire, it ultimately identifies the differences in the extent to which municipalities provide open access to their data, the analysis of the descriptive statistics and findings of the secondary data collection, will remain merely qualitative. Section three then gives an overview of the characteristics of the cooperation of all municipalities that filled in the survey on the topic of open access to data. This overview however is only provided for the municipalities that filled in the survey questionnaire, and stated that they do cooperate with other municipalities on the topic of open data. The overview will be provided, using descriptive statistics for the survey questions that concerned cooperation on the topic of open data. Based on the provided overviews of section two and three, within section four some statistical tests will be carried out to help formulating an answer on the question: "*What is the relationship between cooperation between municipalities on the topic of open data and the provision of open data of the municipalities?*".

5.1 SURVEY RESPONSE RATES

Within this section an overview of the response on the survey will first be provided. Then a brief explanation of the used secondary data and an overview of these secondary data will be given. As earlier stated, the municipalities received a cover letter prior to the survey being open; the cover letter was sent on the 25th of April. The survey then opened on the 5th of May, when every municipality's contact person, if provided, received an invitation to the survey. The survey closed on the 5th of June, by then every municipality had had at least two reminders. This resulted in 31 out of 45 municipalities filling in all the questions that applied to them in terms of the survey. Two other municipalities did open the survey, but did not end up filling in any information relevant for analysis in terms of this research paper. These municipalities are therefore seen as if they did not respond. As such the response rate on the survey is 68,8%. The figure and table below show the municipalities that did fill in the survey.

Municipality	Inhabitants	Municipality	Inhabitants
Assen [1]	67.165	Hoorn [22]	71.880
Hoogeveen [2]	54.860	Purmerend [23]	79.611
Lelystad [3]	76.418	Velsen [24]	67.166
Smallingerland [5]	55.635	Almelo [26]	72.291
Súdwest-Fryslân [6]	84.164	Deventer [27]	98.540
De Fryske Marren [7]	51.213	Hardenberg [28]	59.577
Barneveld [8]	54.703	Veenendaal [31]	63.440
Doetinchem [9]	56.484	Zeist [32]	61.641
Roermond [11]	57.005	Nieuwegein [33]	61.264
Sittard-Geleen [12]	93.724	Woerden [34]	50.631

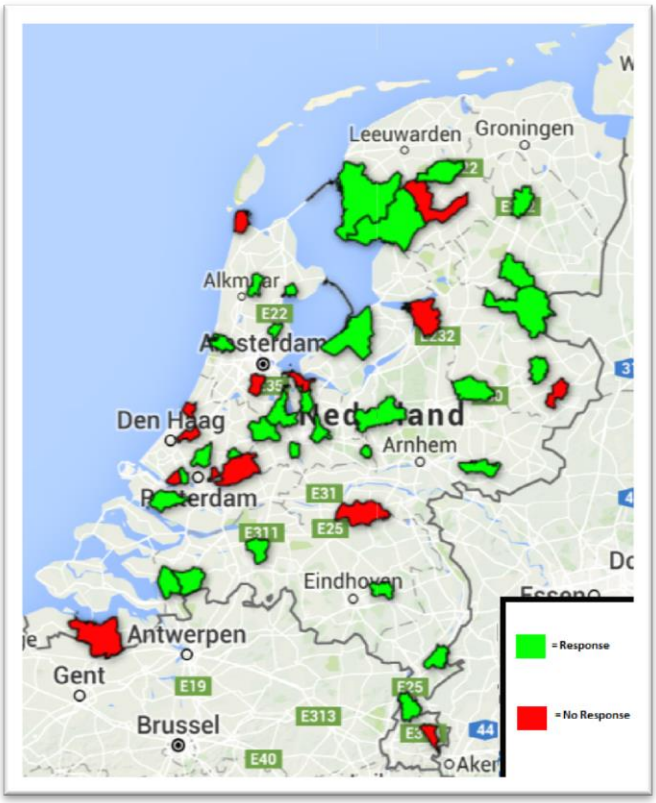

Figure 7: All selected municipalities sorted by response(green)/ no response (red)

Bergen op Zoom [13]	66.320	Stichtse Vecht [35]	63.943
Helmond [14]	89.718	Gouda [38]	71.105
Oosterhout [15]	53.793	Schiedam [40]	76.869
Roosendaal [17]	76.874	Lansingerland [42]	58.133
Heerhugowaard [19]	53.554	Nissewaard [44]	85.121
Hilversum [21]	87.161		

Table 8: Municipalities that filled in the survey

Within the analysis that follows, the focus will lie on the municipalities presented above. This because those municipalities are the ones that filled in the survey and are therefore eligible for comparison on the extent to which they make open data available, and the way in which they cooperate with other municipalities on the topic of open data. Section 5.2, gives a secondary data collection overview and provides an analysis concerning provision of open data, and will still briefly discuss the municipalities that did not fill in the survey but are already making data openly available. Within section 5.3 and 5.4, which mainly take into account the cooperation variable of this research the municipalities that did not fill in the survey will be neglected.

5.2 PROVISION OF OPEN DATA AND DIFFERENCES OF PROVISION OF OPEN DATA BETWEEN MUNICIPALITIES: THE DESCRIPTIVES

Within this section an answer will be provided on the first two sub research question of this research. As such this section aims to answer the following questions:

1. *What does the provision of open data of the different municipalities currently look like?*
2. *What is the difference between the amounts of available open data provided by the different municipalities?*

To do so it first explains what data is considered as 'provided open data' for every municipality, and then provides descriptive statistics regarding the provision of open data by the different municipalities that are included in this research. Secondary data analysis and the questions according data provision asked within the survey questionnaire are used to do so.

Whilst carrying out secondary data collection, some datasets of which municipalities were owner were found within repositories such as data.overheid.nl, opendatanederland.org and dataplatform.nl. Based on the survey questionnaire it was found that the single datasets found on data.overheid.nl, opendatanederland.org and dataplatform.nl were likely to be side effects of today's technology rather than provided by the municipalities themselves. No municipalities stated to be making their data available there, and one municipality even clearly stated that the data concerning their municipality being available at one of these platforms must have been a side effect of today's technology. Some municipalities however, were already depositing one or two datasets at portals like openspending.nl which aims at giving an overview of open government data when it comes to governmental budgets; or the portal of RDW, where data according cars and mobility are made available. One municipality had an overview of the spots where people could walk their dogs freely, somewhere on the website. However, due to the definition of a repository, as given in paragraph 3.4.1, which stated that a repository should be, one database, where an organization shares all information it produces. A municipality should either be sharing all its data through an external portal, or a page on the own municipal website. Data shared through the RDW or open spending portal, as well as data hidden on a municipality its

own website, is therefore neglected within the overview of provided open data per municipality. The remainder of this section will give an overview of the amount of municipalities that yet provide open access to data, the amount of datasets they provide open access to, the domains on which they make data available and the structure of the datasets they make available. Seven out of 45 municipalities are yet providing open access to their data if we follow the criterion explained above. The table below give an overview of how many datasets each of these seven municipalities makes available, on how many and which of the domains presented in section 3.4 they do so, and how useful the data they provide is in terms of the extension or structure of the datasets.

Municipality	Amount of datasets		Structure						Amount of domains	Additional domains
			Unstructured datasets		Semi-structured datasets		Structured datasets			
[3]	42	100%	3	7,15%	7	16,66%	32	76,19%	6	Public space
[19]	14	100%	0	0%	14	100%	0	0%	2	Public space
[23]	3	100%	0	0%	3	100%	0	0%	3	-
[24]	13	100%	0	0%	4	30,76%	9	69,24%	2	Public space
[29]	30	100%	18	60%	10	33,33%	2	6,66%	8	Tourism and culture Public space
[33]	19	100%	0	0%	3	15,8%	16	84,2%	5	Public space
[40]	40	100%	1	2.5%	35	87,5%	4	20%	12	Public space
Total	**161**	**100%**	**22**	**13,67%**	**76**	**47,20%**	**63**	**39,13%**	-	-

Table 9: Details concerning the provision of open data by the 7 municipalities that do so, according to our secondary data analysis (percentages to be interpreted horizontally)

Domain/ Municipality number	[3]	[19]	[23]	[24]	[29]	[33]	[40]
Finance and Economy [1]	x		x	x	x	x	x
Environment [2]	x	x			x	x	x
Health [3]							x
Energy [4]						x	
Education [5]					x		x
Employment [6]							x
Transportation [7]	x				x		x
Infrastructure [8]	x		x		x		x
Population [9]	x	x	x		x	x	x
Elections [10]	x			x	x		x
Legislation [11]							x

Government plans and administrative documents [12]					x	x	x
Public space [O1]	x	x		x	x	x	x
Tourism and culture [O2]					x		x
Total number of domains	7	3	3	3	10	6	12

Table 10: An overview of the domains on which the seven municipalities provide open access to their data

When looking at table 9 and 10 quickly, one already notices quite some differences in the amount of datasets that the seven different municipalities make available, the domains they make the datasets available on, and the structure of the datasets they make available. An explanation of the secondary data analysis and observations based on the secondary data analysis will be given for each of these topics now.

The amount of datasets the different municipalities make available

As table 9 shows, the amount of datasets made available by the different municipalities ranges from very few (3), to a considerable amount of datasets (42). One must acknowledge that all of the seven municipalities listed here, however, are already making data available through one repository or page at their website (from now on referred to as repository as well), and are therefore ahead of the other municipalities within this research in terms of provision of open data.

The structure of the datasets provided by the different municipalities

As explained within section 3.4.1. open data can be provided following different structures. Within this research we distinguished three groups of structures, unstructured datasets, which are datasets that can only be read by humans, but not by machines, semi-structured datasets, which are datasets that can be read by humans, and are machine readable after little adjustment and structured datasets, which are datasets that can be read by humans and can be read by machines without alteration. Table 9 shows quite some differences within the structure of the datasets the different municipalities provide their data in. The most remarkable findings considering the structure of the provided datasets will now be clarified. When looking at municipality [29], one sees that 60% (18) of the datasets this municipality makes available, have an unstructured format. This municipality is using its repository, to provide machine readable datasets, but as well to give citizens easy insights into information such as Sunday openings, the municipal address book, men at work and activities within the city, by providing links to pages on their own website, or to charts on websites of other parties. However these datasets are less likely to be valuable to re-use for economic gains, they do give citizens easy access to information of all sorts through one main repository.

When looking at the structure overall, one sees that 13,67% of the datasets has an unstructured format, most of these datasets are links as explained above, but the unstructured datasets as well consist of council minutes and legislation, provided in .pdf format. The semi-structured datasets make up for 47,2% of the total amount of datasets. Whereas the structured datasets male up for 39,13% of the datasets. The semi structured datasets are mostly of a .csv format, whereas the structured datasets mostly have a .kml or .json format.

The domains on which datasets were provided by the municipalities

Within section 3.4.1 (table 5), 12 different domains have been formulated. For every municipality, a check has been done to see if they are providing open access to data within these domains. Tables 9 and 10 provide an overview of the provision of open data on the different domains by the seven municipalities within our sample that are yet providing open access to data. When analysing the secondary data, some datasets could not be sorted based on these 12 domains, therefore 2 additional domains were formulated: "*Public space*", for datasets concerning playgrounds and dog outlets, and *"Tourism and culture"* for datasets concerning tourist information and events within the municipality. It appears that there is quite a difference in the amount of domains on which the seven municipalities are yet providing open access to their data, municipality [40] is providing open access on 12 of our 14 domains, whereas municipality [19],[23] and [24] are only providing open access on 3 of the 12 domains. Most municipalities are already providing open access to some data on the domains of finance and economy, public space and population, whereas only one of the municipalities is yet providing access on the domains of health, energy and legislation.

Additional to the secondary data collection, some questions concerning the provision of open data by municipalities have been asked within the survey questionnaire as well. What follows now, is an overview and analysis of the answers on these questions. This is done in order to find valuable insights, additional to the secondary data collection, in order to answer the first two sub research questions. One must take into account however, that only 32 out of the 45 municipalities which were contacted, filled in the survey. More importantly, municipality [29], which is one of the municipalities that is yet providing open access to data, did not fill in the survey questionnaire.

The first question asked within the survey questionnaire was "to what extent is your municipality taking action on the topic of "open data"? The question was using answers on a Likert scale, ranging from "not at all" to "to a very high extent".

	Frequency	Percent
Not at all	0	0
Barely	5	16,1
To some extent	10	32,3
To a moderate extent	12	38,7
To a high extent	4	12,9
To a very high extent	0	0
Total	31	100,0

Table 11: To what extent is your municipality taking action on the topic of "open data"?

Based on this question, it appears that all municipalities that filled in the survey, are already taking some action on the topic of open data, only four municipalities say they are taking action to a high extent. Remarkable is, that from the 4 municipalities that provided the answer, "to a high extent" only municipality [40], is already providing open access to data. The other municipalities that are providing open access to data, according to our data analysis, answered "to a moderate extent". Another remarkable insight is provided when thoroughly analysing question three of the survey. Question three asks municipalities to express what phase their municipality is in on the topic of "open data", and

provides the respondent with three possible answers. Firstly an internal phase, in which the topic of open data is explored. The second answer concerns a phase of data collection and publication, and the third phase, is an external phase, in which the public is involved to re-use data. Table 12, provides us with a cross tabulation of the findings of the secondary data analysis concerning the provision of open data, compared to the answers of the municipalities within the survey. Remarkable is that one of the municipalities, municipality [23], which we considered to be making data openly available, clearly expresses to be in an internal, exploratory phase. Remarkable too, is that four municipalities for which no provision of open data was found, express to be in a phase of data collection and publication. Three municipalities provided a different answer, when expressing what phase they were currently in on the topic of "open data". One municipality clearly states that the topic doesn't get much attention, whereas another states they are in a phase prior to open data, to wit the phase of designing data management, the third municipality states that they are making the information available that they are obliged by law, through instances such as the CBS.

Which of the following phases is your municipality currently in on the topic of "open data"?	Does the municipality provide open access to data according to secondary data analysis?	
	Yes	No
Other answer..	0	3
Internal phase: exploratory phase	1	19
Phase of data collection and publication	4	3
External phase: a phase in which the public is involved to re-use data	1	0
Total	6	25

Table 12: Cross tabulation of the findings according to provision of open data within the secondary data analysis, and the phase a municipality considers it selves to be in.

Another cross tabulation that gives some valuable insights is the cross tabulation between question number one "*To what extent is your municipality taking action on the topic of "open data"?*, and question number three *"Which of the following phases is your municipality currently in on the topic of "open data"?*. It turns out that two of the municipalities, consider they are taking action on the topic of open data to a high extent, but are still in an internal, exploratory phase. Six municipalities, who are taking action on the topic of "open data" to a moderate extent, are as well still in an internal, exploratory phase. Exploring the topic of open data thoroughly is a time consuming task, and however only seven municipalities appear to be making data available, many others have already acknowledged the topic and are taking action!

Which of the following phases is your municipality currently in on the topic of "open data"?	To what extent is your municipality taking action on the topic of "open data"?						
	Not at all	Barely	To some extent	To a moderate extent	To a high extent	To a very high extent	Total

Other answer..	0	2	1	0	0	0	3
Internal phase: exploratory phase	0	3	9	6	2	0	20
Phase of data collection and publication	0	0	0	6	1	0	8
External phase: a phase in which the public is involved to re-use data	0	0	0	0	1	0	1
Total	0	5	10	12	4	0	31

Table 13: Cross tabulation of the findings according the extent to which a municipality is taking action on the topic of open data, and the phase a municipality considers it selves to be in.

Answering the first sub research question, "*What does the provision of open data of the different municipalities currently look like?*" we can conclude that there appears to be one group, consisting out of seven municipalities that are leading when it comes to providing open access to data. These municipalities yet make use of an external portal or page on their own website, to make information that could serve helpful for the public, openly available to the public. An important thing to note is that only 5 municipalities state that they are barely taking action on the topic of open data. And 20 municipalities state to be in an internal, explorative phase, eight of the municipalities in an internal, explorative phase, moreover state to be taking action on the topic of "open data" to a moderate or high extent. The topic seems to be acknowledged by municipalities, it could therefore very well be the case, that within the upcoming time, more municipalities will start providing open access to their datasets.

Answering the second sub-research question "*What is the difference between the amounts of available open data provided by the different municipalities?"* one could distinguish two groups, first off, as the secondary data collection, and the answers on the survey questionnaire have shown, many municipalities appear to be in an internal, exploratory phase when it comes to open data, they are exploring the topic, rather than making data available – only seven out of the 45 municipalities are actually providing open access to data! – When just taking into account the seven municipalities that are already providing open access to their data, differences are found when looking at the domains on which the municipalities provided open access. Some municipalities are only providing open access to data on three domains, whereas one other is already providing open access to data on 12 domains. Although, even the amount of data these seven municipalities make available, is still limited, and must grow overtime. Therefore it is chosen that when making comparisons, this research focuses on differences within the cooperation between the group of municipalities that is yet providing open access to some data, and the group of municipalities that is not, a more thorough explanation on the comparisons, is provided within section 5.4.

5.3 DESCRIPTIVE CHARACTERISTICS OF THE COOPERATION ON THE TOPIC OF OPEN DATA OF THE MUNICIPALITIES

As section 5.2 has shown, open data is on the rise, according to this research, seven middle sized municipalities already provide open access to their data, in such a way it can be valuable to the public. And six of these municipalities filled in the survey questionnaire. Although the other municipalities are not yet making data available, it

appeared that 20 of them that filled in the questionnaire are taking action on the topic of open data to some extent, to moderate extent, or to a high extent. The importance to take action on the topic of open data thus has been acknowledged. Within this section an answer on the third sub research question of this research "*What are the characteristics of the cooperation of the municipalities on the topic of open access to data?"* is provided. The survey questionnaire sent out to the different municipalities partaking within this research, are analyzed thoroughly to answer this sub research question. This section starts with looking into the amount of municipalities that cooperate on the topic of open data and presents descriptive statistics on this matter. It then continues by analyzing each of the three pillars of cooperation that have been stated within chapter two. As such, this section will first look into characteristics concerning the extent of resource sharing within the cooperation initiative. The section will then continue with explaining the characteristics of the contact. After that an overview of the provided answers on the questions according institutionalization and formalization of the cooperation will be provided. Last but not least, the motives of the different municipalities to cooperate will be given as well. This section concludes with an answer on the third sub research question.

The second question of the survey questionnaire, asked the municipalities to express to what extent they were cooperating with other municipalities on the topic of "open data", the answer options were presented on a Likert scale, ranging from "not at all" to "to a very high extent". Table 14 presents the descriptive outcomes of this question.

	Frequency	Percent
Not at all	8	25,8
Barely	8	25,8
To some extent	7	22,6
To a moderate extent	7	22,6
To a high extent	1	3,2
To a very high extent	0	0
Total	31	100,0

Table 14: To what extent does your municipality cooperate with other municipalities on the topic of "open data"?

It appears that over half of the municipalities that filled in the questionnaire, barely cooperate with other municipalities on the topic of open data, eight of them even stated not to be cooperating on the topic at all. It could very well be the case however, that most of the municipalities that do not cooperate are still in an internal and explorative phase when it comes to the topic of open data. Maybe cooperation is only seen as valuable, when moving from this stage to a stage in which data is actually provided. A table presenting the mean scores on the cooperation on the topic of "open data" variable, split for the three groups could give us some more insights on this matter.

To what extent does your municipality cooperate with other municipalities on the topic of open data	Mean	N	Std. Deviation
Internal phase: exploratory phase	2,35	20	1,089
Phase of data collection and publication	3,29	7	1,254

External phase: a phase in which the public is involved to re-use data	4	1	-
Total	2,64	28	1,193

Table 15: a comparison of the mean scores of the answers on the question "to what extent does your municipality cooperate with other municipalities on the topic of open data" grouped for phase a municipality considers it selves in

Overall, the mean outcomes for cooperation appear rather low for all three phases. However, the mean outcomes for the cooperation variable appear to be higher for the municipalities which state they are in a phase of data collection than of those in an internal phase, the one municipality that is in an external phase, again has a higher score (4, equal to "*to a moderate extent*") on the cooperation variable than those municipalities which are in a phase of data collection and publication. It appears as if the further the municipalities are on the topic of open data, the higher the extent to which they cooperate with other municipalities on this topic. Another comparison of mean scores is done for the extent of cooperation among the group of municipalities that is already making data openly available according to our secondary data analysis, and the group that is not.

Does the municipality provide open access to data according to secondary data analysis?	Mean	N	Std. Deviation
No	2,36	25	1,186
Yes	3,17	6	1,169
Total	2,52	31	1,208

Table 16: a comparison of mean scores of the answers on the question "to what extent does your municipality cooperate with other municipalities on the topic of open data" grouped for provision of open data

Table 16 shows that the mean score for cooperation are higher for the municipalities that are making data available according to our secondary data analysis, than for those who are not. The average score for the municipalities which are not making data available is 2.36 which can be interpreted as an average cooperation somewhere between "barely" and "to some extent", for the municipalities that are making data available, the mean score is 3.17, which can be interpreted as an average cooperation slightly above "to some extent". When looking at the data for both groups more thoroughly, it was found that one of the municipalities, more specifically municipality [19] that was already providing open access to its data, stated it is not cooperating on the topic of open data at all, whereas seven of the municipalities that were not providing any open access to their data stated not to be cooperating on the topic of open data with other municipalities at all. The reason for municipality [19] to not cooperate on the topic, according to the respondent was that "they simply did not think of it".

If a significant difference between the extent of cooperation for the provision of open data can be found will be tested within section 5.4, since, as earlier stated, this section will focus on providing descriptive statistics on the cooperation characteristics and motives for cooperation of the entire group of municipalities that filled in the survey.

As earlier stated, the remainder of this section will focus on providing descriptive statistics concerning the measurements for cooperation we established within chapter two, as well as providing an overview of the motives for cooperation given by the municipalities. As such first the extent of resource sharing will be discussed, then the characteristics of the contact will be discussed and finally the extent of formalization of the cooperation initiative will be

discussed. The eight municipalities that expressed not to be cooperating on the topic of open data at all have been excluded from the analysis on these matters by using the select cases procedure in SPSS. Therefore they won't be taken into account when presenting descriptive statistics on these matters, unless stated otherwise.

The extent of resource sharing within cooperation between municipalities

As the theoretical chapter of this research explained, it is likely that the mid-sized municipalities need to work together on the topic of open data to reach economies of scale; we expect municipalities that are already providing open access to their data, to share resources to a higher extent than those that do not. To obtain insights on the extent of resource sharing within the cooperation on the topic of open data, the following question was incorporated within the survey: *We would like to know, to what extent your municipality cooperates on the topic of 'open data' with other municipalities in each of the following ways*. This question is then split up in four sub questions, using a question battery, the questions are as follows:

1) By executing open data policy together.
2) By developing open data policy together.
3) By sharing policymakers(expertise/capacity)
4) By sharing facility resources (for example a collective repository)

The answer options to these questions were arranged along a 6-point Likert scale. With the following values:

1) Not at all
2) Barely
3) To some extent
4) To a moderate extent
5) To a high extent
6) To a very high extent

Since 23 out of the 31 municipalities who filled in the survey stated they were cooperating on the topic of open data, only these 23 municipalities were eligible to fill in this question. The descriptive statistics are provided within table 17, the N for the different sub questions differs, because it was not mandatory for the municipality to fill in the question fully.

We would like to know, to what extent your municipality cooperates on the topic of 'open data' with other municipalities in each of the following ways:	N	Minimum	Maximum	Mean	Std. Deviation
1) By executing open data policy together	19	1	4	2,37	1,257
2) By developing open data policy together.	19	1	6	2,63	1,535
3) By sharing policymakers (expertise/capacity)	20	1	5	3,05	1,468
4) By sharing facility	17	1	6	2,47	1,663

resources (for example a collective repository)					

Table 17: Minimum, maximum and mean values for ways of cooperation related to resource sharing

Overall, it appears that the ways of resource sharing questioned within the questionnaire, were not engaged in very often on average. For execution of open data policy together, developing open data policy together and sharing facility resources, the average cooperation appears to be between "barely" and "to some extent". For sharing expertise or capacity of policymakers, the average cooperation appears to be slightly above "to some extent".

An overview of the characteristics of the contact within the cooperation initiatives

Since this research suspects that the characteristics of the contact, in terms of frequency, the organizational level the contact takes place on, and the medium which is used for the contact, have an influence on the provision of open data, an overview of the outcomes on the survey questions asked on these matters need to be provided.

Regarding the frequency of the contact the following question was asked: "*How frequent is the contact on the topic of "open data" with other municipalities.* A scale was used to let the respondents express the frequency of the contact. The answer options were daily, weekly, monthly, once per three months and yearly, the option to answer "I don't know" was presented as well, if a municipality selected "I don't know" their answer is interpreted as a missing value.

Since we hypothesize that more frequent contact has a positive influence on the provision of open data, the decision was made to code daily as 5, weekly as 4, monthly as 3, once per three months as 2 and yearly as one. The mean answer on this question and the frequencies of the answers are presented within the tables below.

How frequent is the contact on the topic of "open data" with other municipalities?	N=18 (5missing)
Yearly	0
Once per three months	9
Monthly	6
Weekly	3
Daily	0

Table 18: Amount of times a certain answer was given for frequency of contact

How frequent is the contact on the topic of "open data" with other municipalities?	N=18 (5missing)	Mean	Std. Deviation
1) By executing open data policy together.	18	2,67	,767

Table 19: mean value for frequency of contact

Overall it appears that the cooperative contact between municipalities on the topic of open data, on average takes place roughly between somewhere every three months and monthly. Three municipalities, however, have expressed to have contact with other municipalities concerning the topic of open data on a weekly basis. Contact between different

municipalities thus doesn't seem to be very frequent as of yet. But then, if contact is taking place, what medium do municipalities tend to use most extensively? To provide an answer on this question descriptive statistics on the following survey question are presented: *How often are the following ways of communication used within the cooperation?* Then four different ways of communication are presented, which are communication by phone, by e-mail, by chat and face to face. For all four ways of communication, respondents can provide an answer on how often it is used within the cooperation on the topic of open data. A 5-point Likert scale, with the answer options "never", "seldom", "sometimes", "often", and "(almost) always" is used. Respondents can as well choose the option "I don't know" in case they do not know how often a way of communication is used. An overview of the answers on this question will now be provided and clarified, using descriptive statistics.

How often are the following ways of communication used within the cooperation?	Never	Seldom	Sometimes	Often	(Almost Always)	Amount of people that filled in the question	Mean	Std. deviation
Phone	1	4	10	3	2	20	3,05	,999
E-mail	1	2	7	6	5	21	3,57	1,121
Chat	7	2	1	1	1	12	1,92	1,379
Face to face	0	2	10	6	3	21	3,48	,873

Table 20: Descriptive statistics and mean outcome of the methods of communication within the cooperation

Based on the table above one can say that it looks like, that within our sample, the municipalities preferred to use e-mail and face to face communication within the cooperation, the respondents stated to use these ways of communication "sometimes" to "often" on average. Remarkable is that only 12 respondents answered the question concerning chat communication, one respondent answered "I don't know" for chat communication, but the other 10 left this question open, it might have been that this question was not understood well. Of the respondents that did answer this question however, seven stated that they never used chat to cooperate on the topic of open data.

Contacts within the cooperation could be on different levels managers could have contact with other managers, caseworkers could be working with one another, or managers could have contact with caseworkers, as already explained shortly within chapter two. We want to know on what level this cooperation appears to be the case for the topic of open data. Therefore the respondents were asked to state *at which of the following organizational levels cooperation took place for their municipality*. The answers respondents can choose from are provided in a multiple choice format, as much answers as the respondent pleased could be selected. The multiple choice options were as follows:

1) Cooperation from managers within your municipality with managers within other municipalities
2) Cooperation of caseworkers within your municipality with caseworkers within other municipalities

3) Cooperation of managers within your municipality with caseworkers within other municipalities
4) Cooperation of caseworkers within your municipality with managers within other municipalities
5) I don't know (interpreted as discrete missing value)

The options that were selected by the respondent were then used within the following question, which stated *"Within the previous question you stated that cooperation takes place on the following organizational levels. Could you express to what extent cooperation takes place at each of these organizational levels?"* The answer options for this question were presented on a 5-point Likert scale, ranging from "barely" to "to a very high extent".

The following table was created after creating a multiple response set in SPSS and presents the descriptive statistics for the answers which the 23 municipalities, that answered these questions, provided.

At which of the following organizational levels does cooperation take place for your municipality.	N
Cooperation from managers within your municipality with managers within other municipalities	6
Cooperation of caseworkers within your municipality with caseworkers within other municipalities	20
Cooperation of managers within your municipality with caseworkers within other municipalities	1
Cooperation of caseworkers within your municipality with managers within other municipalities	1
I don't know	3

Table 20: Frequency table of cooperation per organizational level

Table 20 shows, that for 20 municipalities cooperation takes place between caseworkers of their municipality and caseworkers of a different municipality, since 3 municipalities did not know at what organizational level cooperation was taking place all municipalities that did know, had cooperation on this level. For six of the municipalities cooperation on the topic of open data takes place between managers of the questioned municipality, and managers of the other municipality. Only one municipality states that cooperation takes place between managers within their municipality and caseworkers within another municipality. A different municipality states that cooperation is taking place between caseworkers within their municipality and managers within another municipality. But then, to what extent does the cooperation take place on each of these organizational levels? Table 21 provides a descriptive overview of this.

At which of the following organizational levels does	N	Minimum	Maximum	Mean	Std. Deviation

cooperation take place for your municipality.					
Cooperation from managers within your municipality with managers within other municipalities	6	1	4	2,50	1,049
Cooperation of caseworkers within your municipality with caseworkers within other municipalities	20	1	5	2,80	1,240
Cooperation of managers within your municipality with caseworkers within other municipalities	1	1	1	1,00	-
Cooperation of caseworkers within your municipality with managers within other municipalities	1	2	2	2,00	-

Table 21: The mean score on the 5-point Likert scale explaining the extent of cooperation on each of the organizational levels

For the municipalities that cooperated on the managerial level, the mean score was 2.5. This means that if cooperation on the managerial level was present, it on average was present between "*to some extent*" and "*to a moderate extent*". For cooperation at the caseworker level, the mean score is 2.8, for the 20 out of 23 municipalities that stated to be cooperating on caseworker level; the average extent of which their caseworkers were cooperating was rather close to "to a moderate extent".

Formalization of the cooperation on the topic of open data

To gain more insights in how the different municipalities designed the cooperation on the topic of open data, the survey questionnaire asked some questions that went into more detail when it comes to the formalization of the cooperation initiative. Within these questions it was asked what legal form the cooperation had. The legal forms one could choose from included legal forms on a range from rather informal to very formal. The first question the questionnaire asked concerning the legal form of the cooperation initiative, was if the legal form of the most important cooperation initiative on open data was based on public law or private law. Only 10 municipalities answered this question, four stated that it was based on public law, one stated that it was based on private law, and five stated they did not know. From the four respondents that stated the cooperation was based on public law, three stated they did not know what form of public law. The fourth stated the legal form was a public body, which is the most used form of cooperation based on public law, and the most formal according to the VNG (VNG, 2016). The respondent that stated the cooperation was based on private law, as well as the respondents that stated they did not know what form the cooperation initiative had, could not provide further details on this matter, therefore no results are presented on the motives of municipalities to choose for a certain form of cooperation.

An open question earlier within the survey however, asked within which cooperative initiatives the different municipalities were cooperating on the topic of open data. Within this question twelve municipalities stated to be working with other municipalities or governmental organizations within the region. Analysing these cooperative

initiatives to further detail in future research could possibly provide more details on the extent to which cooperation on the topic of open data is formalized. For now, however, insights on this matter remain absent.

Motives for cooperation on the topic of open data

Additional to the questions asked to gain more insights on the organization of the cooperation on the topic of open data, a question was asked concerning the motives to engage in cooperation on the topic of open data. These motives can help us understand more clearly, why municipalities choose to cooperate on the topic of open data. The question concerning motives to cooperate on the topic of open data has only been asked to the municipalities which stated to be cooperating on the topic of open data.

Case Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Motives for cooperation on the topic of open data	22	95,7%	1	4,3%	23	100,0%

a. Dichotomy group tabulated at value 1.

Table 22: case summary for the motives to cooperate on the topic of open data

Could you explain which of the following motives were reasons to engage in cooperation on the topic of open data?	Responses	
	N	Percent
(Business-economic) scale advantages	7	14,3%
A higher quality of execution/service delivery	14	28,6%
More options in service delivery	1	2,0%
Cooperation gives the opportunity to communication and exchange of expertise	15	30,6%
Legal duty to cooperate	3	6,1%
Stimuli from within other governmental organizations (financing et cetera)	7	14,3%
Another motive	1	2,0%
I don't know	1	2,0%
Total	49	100,0%

Dichotomy group tabulated at value 1.

Table 23: an overview of the amount of times a motive was selected as important to engage in cooperation on the topic of open data

Table 22 shows that 22 out of 23 respondents who said they were cooperating on the topic of open data, actually filled in an answer on this question. Within table 23 a list of motives for cooperation, based on a previous questionnaire of

Pröpper et al. (2005), are presented. The motives are based on the theory presented by Nunn & Rosentraub within chapter two as well, which stated that outcomes of cooperation could be on the matter of economic development or the delivery of better municipal services. It appears that the fact that cooperation gives the opportunity to communication and exchange of expertise was the motive that most municipalities took into account, followed by the idea that cooperation is likely to lead to a higher quality of execution and service delivery. Seven out of 23 municipalities stated that stimuli from within other governmental organizations and economic scale advantages played a role as well. One municipality clearly stated that another motive played a role, this municipality stated to be working together with market parties which were making applications for their citizens for free, as long as the municipality delivered its datasets in a standardized format.

After the question if certain motives played a role to start cooperating on the topic of open data was asked, an additional question was asked, aiming to give more insights in the importance of every motive. The question was as follows: *You expressed that your municipality had the following motives to engage in cooperation. Could you express the importance of every motive on a scale from 1 to 10, where one equals "not very important", and 10 equals very "important".*

Could you express the importance of every motive on a scale from 1 to 10, where one equals "not very important", and 10 equals very "important".	N	Min	Max	Mean	Std. Deviation
(Business-economic) scale advantages	7	6	9	7,43	,976
A higher quality of execution/service delivery	14	5	9	7,38	1,044
More options in service delivery	1	8	8	8,00	-
Cooperation gives the opportunity to communication and exchange of expertise	15	5	10	8,00	1,309
Legal duty to cooperate	3	6	10	8,33	2,082
Stimuli from within other governmental organizations (financing et cetera)	7	4	8	6,43	1,272
Another motive	1	9	9	9,00	-

Table 24: Mean scores of importance for the motives to cooperate

It appears that if municipalities expressed they found a motive important, they usually gave it a rather high score. The lowest average importance was given to stimuli from within other governmental organizations. The seven municipalities that expressed this motive as important, gave it an average importance of 6,43 on a scale from 1 to 10. When looking at the two motives that were seen as important by most of the municipalities, we see that a higher quality of service scores a 7.38 on a scale from 1 to 10 on average, whereas the opportunity to communication and exchange of expertise was given 8 points out of 10 on average by the municipalities that stated they found this motive important.

Reasons not to cooperate according to the municipalities that do not cooperate on the topic of open data

As explained earlier, 23 out of the 31 municipalities that filled in the questionnaire, expressed to be cooperating on the topic of open data to some extent. This means 8 municipalities are not yet cooperating on the topic of open data at all. These municipalities were asked why they were not cooperating on the topic of open data. Three of the eight municipalities stated that cooperation on the topic has not yet been given priority, one of these three municipalities clearly expresses that they are interested in cooperating. A fourth municipality states they are working on a plan for I-cooperation, but open data is no separate topic. The fifth municipality that does not cooperate on the topic of open data, says they just didn't think of it, and a sixth municipality states it is more efficient to work on the topic on their own. The last two municipalities have not provided an answer to the question. But overall it appears that most municipalities have no clear reasons not to cooperate on the topic of open data, but due to a lack of attention for the topic overall, cooperation hasn't gotten any attention yet.

As of now many descriptive statistics have been presented within this paragraph a summary of the outcomes of these descriptive statistics, is necessary to provide an appropriate answer on the third sub-research question of this research: *What are the characteristics of the cooperation of the municipalities on the topic of open access to data?*
We found that 23 out of the 31 municipalities that filled in the survey questionnaire were actually cooperating on the topic of 'open data'. The mean of the extent to which the municipalities were cooperating is 2.51, a score of 2 equals barely whereas a score of 3 would mean cooperation to some extent. On average, the municipalities within this research appear to be cooperating on the topic of open data, halfway between "barely" and "to some extent". When looking at resource sharing, the way in which resource sharing is engaged in most, is by sharing policymakers for expertise and capacity. When looking into the details of the contact, we found that on average, contact takes place roughly between somewhere every three months and monthly. Based on the descriptive statistics, the favorable ways of contact appear to be contact via e-mail, with face to face contact as a close second. Contact through chatting appears to be used the least, only five of the municipalities state that they use this way of contact, one municipality states to use it often, and another one even (almost) always. When looking at the organizational level at which cooperation takes place, contact from caseworkers within one municipality with caseworkers within another municipality appears to happen most often, 21 municipalities stated to cooperate on this organizational level. The managerial level was the second most frequently used organizational level for cooperation, six municipalities stated to cooperate on the managerial level. Unfortunately, the survey has not provided proper insights on the formality of the cooperation on the topic of open data, although the questions used to gain more insights on this matter, were previously used in a research concerning decentralized governmental organizations, most municipalities failed to answer the questions on this matter. The only thing we have learned concerning the cooperation initiatives on this matter, is that most initiatives were cooperation initiatives within the region, for those cooperation initiatives a name was usually provided, additional research, could serve to find out how formal each of these cooperation initiatives is. The motives municipalities had to cooperate on the topic of open data appear to be multiple, where a higher quality of service delivery and the fact cooperation gives the opportunity for communication and exchange of expertise, were the ones mentioned most often.

5.4 COMPARISONS: THE RELATIONSHIP BETWEEN COOPERATION ON THE TOPIC OF OPEN DATA AND THE PROVISION OF OPEN DATA OF THE MUNICIPALITIES

So far, many descriptive statistics have been presented in order to answer the first three sub research questions of this research. Section 5.4 aims to discuss the hypotheses formulated within chapter two as well as the fourth and last sub research question of this research. As such it aims to find an answer on the question: "*What is the relationship between cooperation between municipalities on the topic of open data and the provision of open data of the municipalities?"*. And it as well discusses the hypotheses formulated within chapter two:

H1: *A higher extent of cooperation among municipalities in general has a positive influence on the provision of open data by municipalities.*

H2: R*esource sharing has a positive influence on the provision of open data.*

H3: *Formalization of the cooperation initiative has a positive influence on the provision of open data.*

H4: *The way in which day to day cooperative activities are organized has an influence on the provision of open data. More specifically, more frequent contact is likely to have a positive influence on the provision of available open data*

Due to the fact that only six of the municipalities are already providing open access to their data, and only five of them are already cooperating on the topic of open data. Answering the fourth sub research question as well as the main hypothesis is hard. The expectation was that more municipalities were already providing open access to their data, making it possible to view our dependent variable as a continuum, based on the amount of datasets they were already providing access to or on a scale, based on the limited number of domains the municipalities were making their data available on. However, since only six municipalities that filled in the survey are already providing open access to their data, the distribution of the dependent variable, is very skewed, which is proven by the Shapiro-Wilk test below, which tests if a population is normally distributed, since the significance level of the Shapiro-wilk test is smaller than 0.05 we can reject the null hypothesis, which means our dependent variable is not normally distributed.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Dataprovision	,458	31	,000	,451	31	,000

Table 25: the distribution of our dependent variable, according to the Shapiro-Wilk test

Due to the fact very few municipalities are yet providing open access to their data, we have chosen to view our dependent variable, the provision of open data, as dichotomous: municipalities are either providing open access to their data, or they are not. Our dependent variable being dichotomous, unfortunately limits us to a great extent when carrying out statistical tests. Only two test options remain, which are the chi square test, to compare two categorical variables, and dichotomous logistic regression. Even with the use of likert scales within our independent variable, regression analysis could be used, as long as the Likert scales could be seen as a semi-interval scale, the differences between answer number 1 and number 2 should then be nearly equal to the difference between answer option number 3 and number 4 (Norman, 2010).

The remainder of this section will nonetheless aim to answer the hypotheses and the fourth research question in an appropriate way.

To answer the first hypothesis *a higher extent of cooperation among municipalities in general has a positive influence on the provision of open data by municipalities.* A chi square test is performed, using data for the provision of open data, according to our secondary data analysis, sorted within two groups, the group of municipalities that do make data openly available, and the group of municipalities that do not. The other variable that is used concern the answers on the second question of our survey questionnaire "to what extent does your municipality cooperate on the topic of open data". As earlier explained, this questions answer categories follow a 6-point Likert scale, ranging from "Not at all" to "to a very high extent". Since the answer option "to a very high extent" was never given, the chi-square test will be done based on a 5x2 table. When doing the chi square analysis for the 5x2 table, it turned out that the chi-square assumptions were not met for a table of this format, six out of ten cells have an expected count lower than five, this is 60% of the cells, whereas at maximum, 20% of the cells are allowed to have an expected count less than five, although not at all desirable, we therefore had to regroup the cooperation variable, into two groups. One could argue that no cooperation and barely any cooperation both could be viewed as very few cooperation, and therefore these two answer options were grouped, the group for these two answer options is now called "no cooperation to barely any cooperation", and the second group consists of the answer options "to some extent", "to a moderate extent", "to a high extent", and cooperation "to a very high extent", as any extent apart from barely any cooperation, are thought to be valuable for the provision of open data. Some expected counts are still less than five however, and a regular chi-square test cannot be performed and a Fisher exact test for 2x2 contingency tables is then proposed. The results of the Fisher exact test are presented within the same table as the chi-square test in SPSS, and are presented below.

	The municipality does not provide open access to data according to our secondary data analysis	The municipality does provide open access to data according to our secondary data analysis	Total
No cooperation to barely any cooperation	O:15 E:12,9	O:1 E: 3,1	O: 16 E:16
Cooperation to some extent to cooperation on a very large extent	O:10 E:12,1	O:5 E: 2,9	O:15 E:15
Total	O:25 E:25	O:6 E:6	O:31 E:31

Table 26: Observed values and expected values for the cooperation and the fact if municipalities provide open access to their data according to our analysis or not.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3,638[a]	1	,056		
Continuity Correction[b]	2,110	1	,146		
Likelihood Ratio	3,886	1	,049		
Fisher's Exact Test				,083	,072
Linear-by-Linear Association	3,521	1	,061		
N of Valid Cases	31				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 2,90.

b. Computed only for a 2x2 table

Table 27: Outcomes of the chi square test for cooperation and the provision of open data by municipalities

When looking at the fisher exact test, we see a p-value of 0.072, P=0.072 > α=0.05 so on a 95% confidence interval, we cannot reject the null-hypothesis, therefore we have no evidence that the extent of cooperation is related with the fact if municipalities provide open access to data or not. However, the p-value does only exceed the alpha by 0.022. When looking at the expected and observed values for the cross-relationship between "cooperation to some extent to cooperation to a very large extent" and "the municipalities providing open access to their data according to our secondary data analysis". We find that the observed count (5) exceeds the expected count (2,9) by 2,1 so a relationship between cooperation and the provision of open data by municipalities might very well be the case.

Maybe though, a relationship does exist between the extent of cooperation and the phase a municipality states to be in when it comes to the topic of open data. Therefore another chi square test is conducted, which includes cooperation and the phase a municipality states to be in. When running this test, the phase of data collection and publication, has been merged with the external phase, to create a 2x2 table once again. Two of the three municipalities that provided another answer, have been recoded into the group of municipalities being in an internal phase, as they stated that the topic is not yet engaged with to a large extent. The third municipality has been recoded to be in group two, as they stated they were making the data they had to by lawful duty, available. The outcomes of this chi square test are presented in the table below.

	Internal phase: exploratory phase	Phase of data collection and publication or external phase	Total
No cooperation to barely any cooperation	O:14 E:11,4	O:2 E: 4,6	O: 16 E:16
Cooperation to some extent to cooperation on a very large extent	O:8 E:10,6	O:7 E: 4,4	O:15 E:15
Total	O:22 E:22	O:9 E:9	O:31 E:31

Table 28: Observed values and expected values for the cooperation and the phase concerning the topic of open data a municipality states to be in.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,386[a]	1	,036		
Continuity Correction[b]	2,885	1	,089		
Likelihood Ratio	4,567	1	,033		
Fisher's Exact Test				,054	,044
Linear-by-Linear Association	4,245	1	,039		
N of Valid Cases	31				

a. 2 cells (50,0%) have expected count less than 5. The minimum expected count is 2,90.

b. Computed only for a 2x2 table

Table 29: outcomes of the chi-square test for cooperation and the phase concerning the topic of open data a municipality states to be in.

The outcomes once again have to be interpreted by looking at the Fisher's exact test, due to two expected counts in the cross tabulation being below five. In this case, the null hypothesis however can be rejected, the p-value of 0,044 < than our α of 0,05 there appears to be a relationship between the extent of cooperation, and the phase a municipality says to be in currently, when it comes to the topic of cooperation. More specifically, the observed count (7) of "some extent of cooperation to cooperation on a very large extent" exceeds the expected count (4,4) for municipalities in a phase of data collection and publication, or in an external phase, by 2,6. It looks like the extent of cooperation is higher, when a municipality is in a further phase when it comes to the topic of open data.

Based on this we can partly provide an answer on our first hypothesis "a *higher extent of cooperation among municipalities in general has a positive influence on the provision of open data by municipalities."*

Based on the analysis we could possibly conduct, there were no possibilities to answer the first hypothesis appropriately. If we reformulate the hypothesis into: *"the extent of cooperation among municipalities is positively related to the provision of open data by municipalities",* however, we can provide an answer. We do not have proof to confirm this hypothesis, since no statistical significant relation was found between cooperation and the provision of open data according to our secondary data analysis, the observed value for the cell containing municipalities that were providing open access to data, and that were cooperating on a moderate to high extent, however was 5, whereas 2,9 was expected. It thus appears that municipalities might be cooperating more as they provide more open access to their data. A statistical significant relation was however found between the phase a municipality says to be in when it comes to the topic of open data and the extent of cooperation. Cooperation appeared to be significantly higher when municipalities were in a stage of data collection and publication, or an external phase in which the public is involved to re-use the data, than when they were in an internal phase. An important side note is that based on these statistical tests, we do not know if cooperation influences the provision of open data, or the other way around. The same is the case for the phase a municipality is in and the extent of cooperation. We do only know, that municipalities that are in a further phase concerning the topic of open data, are cooperating to a higher extent, than those that are in a previous phase. It could even be so, that cooperation on the topic of open data is a side effect of being more involved on the topic of open data, or of the provision of open data. One could however reason that municipalities are cooperating on the topic of open data, because they think cooperation could be valuable to be successful on the topic, the outcomes presented within paragraph 5.3, concerning the motives to cooperate empower this statement.

Unfortunately, appropriate tests for significance on the second, third and fourth hypotheses cannot be provided based on the gathered data. This because the questions concerning resource sharing and the way in which day to day cooperative activities are organized, have only been filled in by the 23 municipalities that stated to be cooperating on the topic of open data already. On the questions concerning formalization of the cooperation, even less municipalities gave an appropriate response, rendering tests for significance on these matters unfeasible. What could be done additionally to this research, is provide some cross tables on these matters, and see if there are differences in the observed percentages for municipalities that are already making data openly available, and those that are not.The cross tables concerning these matters, can be found within Appendix VIII.

What rests is to provide an answer on the fourth and last sub-research question of this research "*What is the relationship between cooperation between municipalities on the topic of open data and the provision of open data of the municipalities?"*. It is needless to say, that providing a clear answer to this sub research question is rather hard, due to the fact that most of the mid-sized municipalities were not yet providing open data, whereas we expected them to already be providing at least some open data, we were forced to recode our dependent variable from a continuous variable to a discrete, dichotomous variable. The provision of open data could no longer be distinguished by the amount of domains municipalities made data available on, or the amount of datasets they made available, simply because most municipalities did not appear to be in this stage as of yet. What we could do in order to at least provide a partial answer on the fourth and last sub-research question of this research, was conducting a chi-square test. Within the chi-square test we found no significant evidence that a difference exists in the extent of cooperation for the municipalities that did not make data available yet, and for those that did. However, the observed values concerning the extent of cooperation in the cell "Cooperation to some extent to cooperation on a very large extent-The municipality does provide open access to data according to our secondary data analysis" was 2.1 higher than the expected value. Since only six of the people within the survey are already providing open access to their data, a value of 5, instead of a value of 2.9 for this cell, points towards a positive relation between cooperation and the provision of open data. Due to only having the descriptive statistics concerning the resource sharing and the details of the contact within the cooperation, we cannot give any more details than the details we have provided already in paragraph 5.3. We didn't find evidence to say that a relationship between cooperation between municipalities on the topic of open data and the provision of open data does actually exist. We then decided to look into the phase a municipality considers it selves to be in, when it comes to the topic of open data as well, and found that cooperation and the phase a municipality considers it selves to be in, are significantly related. It looks like it that municipalities within the phase of data collection and publication and within the external phase, were cooperating to a larger extent than the municipalities that were in an Internal phase. The reason for this could very well be, that the municipalities which are in an internal explorative phase, are not yet at a point where cooperation is valuable to them. It seems that when municipalities get more engaged in the topic of provision of open data, they tend to cooperate more. To conclude, we have not found a significant relationship between cooperation between municipalities and the provision of open data, what we can say however, is that municipalities seem to cooperate more as they get more engaged on the topic. Since not all the municipalities that expressed to be in a phase of data collection and publication were providing open access to their data according to our secondary data collection, we can assume that municipalities get involved in cooperation before they actually start providing open access to their data. Due to the fact that very few municipalities are yet providing open access to their data, a thorough relationship between cooperation and the provision of open data, however, cannot be provided.

6. DISCUSSION, CONCLUSION & RECOMMENDATIONS FOR FURTHER RESEARCH

A thorough analysis has been done and answers to the research questions have been provided as far as possible based on the outcomes of the survey and secondary data analysis. Within this final chapter, first the research will be

discussed; within this discussion some limitations of this study will be provided. The chapter then follows with a conclusion. The last section of this chapter will provide an overview of recommendations for future research.

6.1 DISCUSSION

When looking at the sample used within this study, we see that we only focus on mid-sized municipalities. Some major limitations to this research, due to assumptions made prior to the research occurred during the research. Prior to the execution of the research, we expected that a high amount of these municipalities would yet be providing open access to their data, because national government has already urged municipalities to start making their data openly available. However, during the execution of the research it turned out that this was not the case. Only seven out of 45 municipalities within the research are already in a stage in which they are providing open access to some data, which means that the other 38, are not. Out of the 45 municipalities, 31 municipalities filled in the survey, and 23 of these municipalities stated to be cooperating on the topic of open data. 5 of the municipalities that were cooperating on the topic of open data according to their response on the survey, were actually providing open access to their data according to our secondary data analysis. The small N and the fact the dependent variable, provision of open data had to be studied in a dichotomous rather than continuous manner, have limited the possible findings of this research in terms of the relation between provision of open data and cooperation. This problem could have been prevented if the analysis of the provision of open data would have been done before sending out the questionnaire, a different approach then could have been taken within the questions, focusing more on what the reasons for municipalities were to engage in the topic of open data. Due to a limited amount of time and due to the assumption many municipalities would already be providing open access to data, due to central government urging them to do so, however, both were done simultaneously. A qualitative comparative analysis on the data, might have been a better way to analyze the group of mid-sized municipalities, because the amount of mid-sized municipalities is limited, and qualitative comparative analysis does more right to smaller samples than quantitative analysis do. In terms of construct validity, we re-used parts of a questionnaire that was previously used by Pröpper et al. (2005) within their trend study studying decentralized cooperation, to gain insights on the formalization of the cooperation initiative and for motives of cooperation. Remarkable, is the fact that the questions concerning the formalization of the cooperation initiative and the choice for this form of cooperation were not answered by many respondents. Pröpper et al. (2005) however sent their questionnaire to councilors, whereas this research targeted the main responsible on the topic of open data within a municipality, for whom these type of questions might have been harder. When looking at internal validity, we presumed that cooperation would have a positive effect on the provision of open data, one could argue that the research provides a lack of clarity about which variable causes the other, cooperation or provision of the open data. We argue that cooperation came first. Within literature it is clearly stated that cooperation can have positive influences due to sharing expertise or the creation of economies of scale, and within the data analysis, many municipalities in an internal, explorative phase, stated to be cooperating on the topic of open data to some extent already as well. Due to the research only focusing on mid-sized municipalities, external validity could be at risk. It might very well be the case that the research is only applicable for other municipalities with the same size.

6.2 CONCLUSION

Within this research 45 mid-sized municipalities were studied for the extent to which they provide open data, and questionnaires were sent out to all of these municipalities to find out to what extent they cooperated on the topic of open data, and to gain more insights on the characteristics of this cooperation. We found that seven out of 45 mid-sized municipalities are already providing open access to their data through an external portal or a page on their own website. We as well found that 23 out of 31 municipalities that filled in the survey questionnaire of this research, are already cooperating on the topic of open data. The cooperation on the topic of open data for the entire group is halfway between "barely" and "to some extent", for the municipalities that already appeared to be providing open access to their data, the extent of cooperation was little above "to some extent", cooperation on the topic of open data thus appears to be present, but very extensive cooperation on the topic (on average) is lacking as of now. When analysing cooperation this research moreover confirms that sharing expertise and capacity, which are important factors of cooperation, are ways of resource sharing that actually is engaged in to the highest extent, and motives that are seen as important to start cooperating by most municipalities. Within this research contact between caseworkers was the most frequent way of cooperating on the topic of open data, which makes sense, since the caseworkers are the ones who actually have to take action on the topic of open data in practice. The research thus provided many descriptive insights on the extent to which Dutch, mid-sized municipalities are providing open access to their data as of May 2016, and on the characteristics of the cooperation they undertake on this matter. To answer the main research question: "*Does cooperation between municipalities on the topic of open data improve the provision of open data by municipalities?*" , although this research cannot say that cooperation is the only variable influencing the provision of open data, based on this research we can argue that cooperation on the topic of open data and performance on the topic of open data are variables that are related, at least to some extent. Using chi square tests, positive relations between cooperation and the phase a municipality is in on the topic of open data have been shown. Although not being significant, on a 95% confidence level, a relation between cooperation and the provision of open data has as well been shown on a 90% confidence level. Based on the observed and the expected values, one could argue that the higher the extent of cooperation is, the higher the provision of open data is, too. Due to the low amount of municipalities providing open access to data at this moment, no detailed insights on how the cooperation improves the provision of open data could be given. When in a couple of years, more of the mid-sized municipalities are providing open access to (some of) their data; a follow up research could provide more insights on this matter.

Apart from the focus on cooperation, rather valuable insights have been found based on the provision of open data by the municipalities within this research. As stated earlier, within our secondary data analysis we found that seven out of the 45 municipalities are already providing open access to their data. However, within the survey questionnaire, all 31 municipalities stated to be taking action on the topic of open data. 12 of these municipalities stated to be taking action on the topic of open data to a moderate extent, and 4 of them stated to be taking action on the topic to a high extent even. A discrepancy between the provision of open data and the municipalities taking action on the topic of open data thus appears to be present. Municipalities are already spending time by taking action on the topic of open data (input) but provision of open data is not immediately there (output). Providing open access to data is a process, it takes time to find out how, where, and which data can be made available. Citizens however, will only see the results as soon as

the entire process has been gone through. This typical case provides evidence of the discrepancy between the output a citizen sees and the effort governmental organizations put in, which is present in many other cases too.

6.3 RECOMMENDATIONS FOR FURTHER RESEARCH

Although this research hasn't managed to deliver the full results it aimed for, it has led to some valuable insights and multiple recommendations for future research can be formulated based on the findings. On the short term, further research could be done focusing more on the reasons why mid-sized municipalities are not yet providing open access to their data. Prior to this research, we suspected that an appropriate amount of the municipalities within this research would already be providing open access to their data. This was a likely scenario, since Dutch central government has been pushing Dutch municipalities on the matter of provision for open data for a while now. Within a couple of years, a follow up research could be done. One can expect that municipalities will be further when it comes to the provision of open data by then, which increases the amount of valuable observations on the dependent variable: provision of open data. Within this follow-up research, the provision of open data by municipalities should then be collected and processed in the same way, the same questions concerning cooperation could be asked as well, apart from the questions concerning the formalization of the cooperative initiative. The formalization of the cooperative initiative could instead be studied by just asking for the name of the cooperative initiative within the questionnaire, and carrying out a secondary data analysis to find out how formal every single one of these initiatives is. The collected data could then be studied in two ways: first off just like in this research, in a quantitative manner. Due to the fact it is likely that more municipalities are providing open access to their data by then, it is possible to study our dependent variable on a continuum rather than in a dichotomous manner by then, which gives us the possibility to study relations between our dependent variable and independent variable more extensively. More insights can then be provided on the importance for cooperation within the provision of open data for mid-sized municipalities too.

Why extensive cooperation on the topic is lacking as of now, can only be guessed based on this research. It could be the case that the extent of cooperation is rather low because of the fact that many municipalities are just exploring the topic of open data as of now; cooperation might be engaged in to a higher extent when they proceed further. It could as well be the case that extensive cooperation is not seen as valuable for the provision of open data, a follow up research carried out within a couple of years, when municipalities are providing more open access to their data can provide more insights on this matter. Secondly the collected data could be studied by using qualitative comparative qualitative analysis, a method of analysis developed by prof. Ragin, which is ideal for studying smaller samples. Carrying out such a follow up study on this research, can provide valuable insights on how cooperation between municipalities on the topic of open data changed overtime, and if the amount of provided open data changed over time.

7. REFERENCES

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APPENDIX I – SURVEY QUESTIONNAIRE

Gemeenten, Samenwerking & Open Data

Geachte deelnemer,

Hartelijk dank voor uw deelname aan het onderzoek “Gemeenten, Samenwerking en Open Data”. Indien u op een vraag echt geen antwoord weet, kunt u "niet van toepassing" of "weet ik niet" invullen. Zoals al aangegeven in de begeleidende e-mail, zal bij het verwerken van de gegevens verkregen via deze vragenlijst, uw anonimiteit gewaarborgd blijven.

Open data: In het kader van dit onderzoek wordt het begrip open data gedefinieerd als data die beschikbaar zijn gemaakt via minstens **één online dataportaal** voor lange termijn archivering. Voorbeelden van open data zijn data omtrent het aantal fietsendiefstallen in een gemeente in een desbetreffend jaar, of data over geboortecijfers, of beleidsdocumenten. Data krijgen alleen het predikaat open indien ze:

1. Voor iedereen vrij toegankelijk zijn, waar dan ook ter wereld.
2. Door iedereen mogen worden gekopieerd, gedistribueerd en publiekelijk toegankelijk mogen worden gemaakt.
3. Door iedereen mogen worden gebruikt voor eigen werk, of voor nieuwe toepassingen zoals bijvoorbeeld een nieuwe app.

Samenwerking: Samenwerking is binnen dit onderzoek gedefinieerd als volgt: alle interacties tussen actoren (**van een gemeente met een andere gemeente**) met de doelstelling om publieke problemen gezamenlijk op te lossen in plaats van alleen.

Samenwerking in het kader van dit onderzoek is dus zowel de samenwerking die in contracten is vastgelegd, als de samenwerking die plaatsvindt op basis van bestuursakkoorden, convenanten en intentieverklaringen. Tevens maakt het voor dit onderzoek niet uit of de samenwerking gericht is op bedrijfsvoering of op beleidsvorming.

Enkele voorbeelden van samenwerking in het kader van dit onderzoek zijn:
- De instelling van één ambtelijke organisatie voor twee gemeenten
- Regionale samenwerkingsverbanden

Maar ook:
- Informeel overleg

Het invullen van de vragenlijst zal zo'n 10 minuten in beslag nemen.
Bij voorbaat nogmaals hartelijk dank voor uw deelname!

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Begeleiders van het onderzoek:

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Er zijn 33 vragen in deze enquête

Algemeen

De eerste vragen van deze enquête zijn van algemene aard, en hebben betrekking op de mate waarin uw gemeente zich bezig houdt met open data en de mate waarin zij op het onderwerp "open data" samenwerkt met andere gemeenten.
[]In welke mate is uw gemeente bezig met het onderwerp "open data"? *

Kies één van de volgende mogelijkheden:

- ○ Helemaal niet
- ○ Nauwelijks
- ○ Enigszins
- ○ In redelijke mate
- ○ In hoge mate
- ○ In zeer hoge mate
- ○ Weet ik niet

[]In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Kies één van de volgende mogelijkheden:

- ○ Helemaal niet
- ○ Nauwelijks
- ○ Enigszins
- ○ In redelijke mate
- ○ In hoge mate
- ○ In zeer hoge mate
- ○ Weet ik niet

Uw gemeente en open data

Graag willen wij u enkele vragen stellen met betrekking tot de mate waarin en de manier waarop uw gemeente haar data open beschikbaar maakt.
[]In welke van de volgende fasen bevindt uw gemeente zich op het onderwerp "open data"? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Kies één van de volgende mogelijkheden:

- ○ Interne fase: Verkenningsfase
- ○ Fase van data verzamelen en publiceren
- ○ Externe fase: Een fase waarin de buitenwereld betrokken wordt om data her te gebruiken
- ○ Weet ik niet
- ○ Andere

[]Hoeveel FTE werken er binnen de afdeling van uw gemeente die zich met open data bezig houdt?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Vul uw antwoord(en) hier in:

Hoeveel FTE werken er in totaal op de afdeling?

Hoeveel FTE houdt zich specifiek bezig met het onderwerp "open data"?

Indien u het antwoord op de vraag niet precies weet, kunt u een schatting geven. Indien u helemaal geen idee heeft, kunt u de vraag leeg laten.
[]Hoeveel datasets maakt uw gemeente reeds open beschikbaar?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

In dit veld mogen alleen cijfers ingevoerd worden.

Vul uw antwoord hier in:

Een dataset is een verzameling van gegevens en wordt meestal gepresenteerd in tabelvorm. Ook gegevensverzameling in de vorm van een karakterstring kunnen echter datasets zijn. **Indien u het antwoord op de vraag niet weet, kunt u een schatting geven, indien u helemaal geen idee heeft, kunt u deze vraag leeg laten.**

Voorbeelden van extensies van datasets zijn .csv, .xls, .json, .kml, .xml, .shp, .gtfs, .ods, maar soms ook .doc of .pdf.

Data krijgen alleen het predikaat open indien ze beschikbaar zijn via een dataportaal voor lange termijn archivering en:

1. Voor iedereen vrij toegankelijk zijn, waar dan ook ter wereld.
2. Door iedereen mogen worden gekopieerd, gedistribueerd en publiekelijk toegankelijk mag worden gemaakt.
3. Door iedereen mogen worden gebruikt voor eigen werk, of voor nieuwe toepassingen zoals bijvoorbeeld een nieuwe app.

[]Op welk van de volgende onderwerpen maakt uw gemeente reeds datasets open beschikbaar?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Selecteer alle mogelijkheden:

☐ Financiën en Economie (bijvoorbeeld data m.b.t. armoede, rijkdom, investeringen, begrotingen)

☐ Milieu (bijvoorbeeld data m.b.t. vervuiling, meteorologie, emissie)

☐ Gezondheid (bijvoorbeeld data m.b.t. verzorgingshuizen, ziekenhuizen, apotheken)

☐ Energie (bijvoorbeeld data m.b.t. energieverbruik)

☐ Onderwijs (bijvoorbeeld data m.b.t. scholen, schoolprestaties)

☐ Werkgelegenheid (bijvoorbeeld data m.b.t. werkloosheid)

☐ Vervoer (bijvoorbeeld data m.b.t. openbaar vervoer, wegen)

☐ Infrastructuur (bijvoorbeeld data m.b.t. bouwvergunningen)

☐ Bevolking (bijvoorbeeld data m.b.t. geboortecijfers, huwelijkscijfers)

☐ Verkiezingen (bijvoorbeeld data m.b.t. verkiezingsuitslagen)

☐ Wet- & regelgeving (bijvoorbeeld data m.b.t het aantal fietsendiefstallen)

☐ Overheidsplannen & bestuursdocumenten (bijvoorbeeld data m.b.t. beoordelingen van gemeentediensten)

☐ Weet ik niet

☐ Mijn gemeente maakt datasets beschikbaar op andere onderwerpen, namelijk::

[]Via welke dataportalen maakt uw gemeente haar datasets beschikbaar?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Selecteer alle mogelijkheden:

☐ Data.overheid.nl

☐ Dataplatform.nl

☐ Een provinciaal dataportaal

☐ Anders, namelijk

Indien uw gemeente geen datasets beschikbaar maakt via een dataportaal, kunt u deze vraag leeglaten.
[]U heeft het antwoord anders namelijk aangevinkt, kunt u aangeven via welke andere dataportalen uw gemeente haar datasets open beschikbaar maakt? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord was bij vraag '7 [B1]' (Via welke dataportalen maakt uw gemeente haar datasets beschikbaar?)

Vul uw antwoord hier in:

[]Graag willen wij u vragen om de dataportalen via welke uw gemeente haar datasets beschikbaar maakt te rangschikken.

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:

-------- Scenario 1 --------

Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord was bij vraag '7 [B1]' (Via welke dataportalen maakt uw gemeente haar datasets beschikbaar?)

-------- of Scenario 2 --------

Antwoord was bij vraag '7 [B1]' (Via welke dataportalen maakt uw gemeente haar datasets beschikbaar?)

-------- of Scenario 3 --------

Antwoord was bij vraag '7 [B1]' (Via welke dataportalen maakt uw gemeente haar datasets beschikbaar?)

-------- of Scenario 4 --------

Antwoord was bij vraag '7 [B1]' (Via welke dataportalen maakt uw gemeente haar datasets beschikbaar?)
De antwoorden moeten verschillend zijn en moeten worden gerangschikt.

Bepaal voor elke optie het volgnummer van 1 tot 4

data.overheid.nl

Dataplatform.nl

Een provinciaal dataportaal

Andere portalen (zoals aangegeven onder de optie anders, namelijk bij de vorige vraag)

Plaatst u alstublieft het dataportaal wat uw gemeente het meest gebruikt om data open beschikbaar te maken, bovenaan en het portaal wat uw gemeente het minst frequent gebruikt onderaan.

Motieven voor samenwerking op het gebied van open data

De vragen die nu volgen hebben betrekking op de motieven van uw gemeente om samen te werken met andere gemeenten op het onderwerp "open data".
[]Eerder gaf u aan dat uw gemeente samenwerkt met andere gemeenten op het onderwerp open data. Kunt u aangeven welke motieven een rol speelden om samenwerking aan te gaan?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Selecteer alle mogelijkheden:

☐ (Bedrijfseconomische) schaalvoordelen

☐ Een hogere kwaliteit van uitvoering/dienstverlening

☐ Meer keuzemogelijkheden in dienstverlening

☐ Samenwerking biedt de mogelijkheid tot communicatie en uitwisseling van expertise

☐ Wettelijke plicht tot samenwerking (geen keuze)

☐ Stimulansen vanuit andere overheden (financiën e.d.)

☐ Ander motief, namelijk

☐ Weet ik niet

[]U heeft aangegeven dat er een ander motief een rol speelt voor uw gemeente om tot samenwerking op het gebied van open data over te gaan. Kunt u dit motief kort uitleggen?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was bij vraag '10 [C1]' (Eerder gaf u aan dat uw gemeente samenwerkt met andere gemeenten op het onderwerp open data. Kunt u aangeven welke motieven een rol speelden om samenwerking aan te gaan?)

Vul uw antwoord hier in:

[]U gaf aan dat uw gemeente de volgende motieven had om tot samenwerking over te gaan. Kunt u van elk van deze motieven op een schaal van 1 tot 10, waarbij 1 staat voor "niet zo belangrijk" en 10 voor "zeer belangrijk", aangeven hoe belangrijk deze voor uw gemeente is?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was bij vraag '10 [C1]' (Eerder gaf u aan dat uw gemeente samenwerkt met andere gemeenten op het onderwerp open data. Kunt u aangeven welke motieven een rol speelden om samenwerking aan te gaan?)

Kies het toepasselijke antwoord voor elk onderdeel:

Beantwoord deze vraag alleen voor de items die u geselecteerd heeft in vraag C1 ('Eerder gaf u aan dat uw gemeente samenwerkt met andere gemeenten op het onderwerp open data. Kunt u aangeven welke motieven een rol speelden om samenwerking aan te gaan?')

Beantwoord deze vraag alleen voor de items die u niet geselecteerd heeft in vraag C1 ('Eerder gaf u aan dat uw gemeente samenwerkt met andere gemeenten op het onderwerp open data. Kunt u aangeven welke motieven een rol speelden om samenwerking aan te gaan?')

	1	2	3	4	5	6	7	8	9	10
(Bedrijfseconomische) schaalvoordelen	○	○	○	○	○	○	○	○	○	○
Een hogere kwaliteit van uitvoering/dienstverlening	○	○	○	○	○	○	○	○	○	○
Meer keuzemogelijkheden in dienstverlening	○	○	○	○	○	○	○	○	○	○
Samenwerking biedt de mogelijkheid tot communicatie en uitwisseling van expertise	○	○	○	○	○	○	○	○	○	○
Wettelijke plicht tot samenwerking (geen keuze)	○	○	○	○	○	○	○	○	○	○
Stimulansen vanuit andere overheden (financiën e.d.)	○	○	○	○	○	○	○	○	○	○
Eerder genoemde andere motieven	○	○	○	○	○	○	○	○	○	○

Samenwerking op het gebied van open data in de praktijk

De volgende vragen gaan over de wijze waarop samenwerking van uw gemeente met andere gemeenten op het onderwerp open data in de praktijk plaats vindt.
[]Hoevaak is er binnen de samenwerking op het onderwerp van "open data" contact met andere gemeenten? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Kies één van de volgende mogelijkheden:

○ Dagelijks

○ Wekelijks

○ Maandelijks

○ Eens per kwartaal

○ Jaarlijks

○ Weet ik niet

[]Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Kies het toepasselijke antwoord voor elk onderdeel:

	Nooit	Zelden	Soms	Vaak	(Bijna) altijd	Weet niet
Telefoon	○	○	○	○	○	○
E-mail	○	○	○	○	○	○
Chat	○	○	○	○	○	○
Face to Face	○	○	○	○	○	○

[]Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Selecteer alle mogelijkheden:

☐ Samenwerking van managers binnen uw gemeente met managers binnen andere gemeenten

☐ Samenwerking van beleidsmedewerkers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten

☐ Samenwerking van managers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten

☐ Samenwerking van beleidsmedewerkers binnen uw gemeente met managers binnen andere gemeenten

☐ Weet ik niet

Samenwerking vindt vaak plaats tussen veel verschillende partijen en op veel verschillende organisatieniveaus. Graag willen wij van u weten op welk organisatieniveau de samenwerking op het gebied van open data met andere gemeenten bij u in de gemeente plaatsvindt.
[]

Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk van de organisatieniveaus aangeven in welke mate samenwerking plaatsvindt?

*****

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:

-------- Scenario 1 --------

Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was bij vraag '15 [D3]' (Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?) *en* Antwoord was bij vraag '15 [D3]' (Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?)

-------- of Scenario 2 --------

Antwoord was bij vraag '15 [D3]' (Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?)

-------- of Scenario 3 --------

Antwoord was bij vraag '15 [D3]' (Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?)

-------- of Scenario 4 --------

Antwoord was bij vraag '15 [D3]' (Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?)

Kies het toepasselijke antwoord voor elk onderdeel:

Beantwoord deze vraag alleen voor de items die u geselecteerd heeft in vraag D3 ('Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?')

Beantwoord deze vraag alleen voor de items die u niet geselecteerd heeft in vraag D3 ('Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?')

	Nauwelijks	Enigszins	In redelijke mate	In hoge mate	In zeer hoge mate	Weet ik niet
Op managementniveau (samenwerking van managers binnen uw gemeente met managers binnen andere gemeenten)	○	○	○	○	○	○
Op beleidsmedewerkerniveau (samenwerking van beleidsmedewerkers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten)	○	○	○	○	○	○
Managementniveau met beleidsniveau (samenwerking van managers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten)	○	○	○	○	○	○
Beleidsniveau met managementniveau (samenwerking van beleidsmedewerkers binnen uw gemeente met managers binnen andere gemeenten)	○	○	○	○	○	○

[]

Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren.

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Kies het toepasselijke antwoord voor elk onderdeel:

	Helemaal niet	Nauwelijks	Enigszins	In redelijke mate	In hoge mate	In zeer hoge mate
Door het gezamenlijk uitvoeren van een open data beleid	○	○	○	○	○	○
Door het gezamenlijk ontwikkelen van nieuw open data beleid	○	○	○	○	○	○
Door het delen van beleidsmedewerkers (expertise/capaciteit)	○	○	○	○	○	○
Door het delen van facilitaire hulpbronnen (zoals een gezamenlijk dataportaal)	○	○	○	○	○	○

[]

Zijn er nog andere manieren waarop uw gemeente samenwerkt op het gebied van open data? Zo ja welke?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Vul uw antwoord hier in:

Formaliteit van de samenwerking

We zijn inmiddels aangekomen bij het laatste onderwerp van deze enquête. Graag willen wij u enkele vragen stellen over de vorm van de samenwerking op het onderwerp "open data".
[]Bij welke samenwerkingsverbanden op het gebied van open data is uw gemeente betrokken en wat zijn de overheidsinstanties met welke uw gemeente binnen deze samenwerkingsverbanden samenwerkt?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Vul uw antwoord hier in:

Bij deze vraag is het de bedoeling dat u de samenwerkingsverbanden op het gebied van open data waaraan uw gemeente deelneemt noemt. Eveneens willen wij graag weten wat de overheidsinstanties zijn waarmee u binnen deze samenwerkingsverbanden samenwerkt.
[]Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente heet en aangeven welke gemeenten en andere instanties hierin samenwerken? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Kies één van de volgende mogelijkheden:

○ Ik kan dit niet benoemen

○ De naam van het samenwerkingsverband en de instanties die hierin samenwerken zijn de volgende:

Het maakt niet uit of er binnen het samenwerkingsverband op meerdere onderwerpen) of specifiek op het onderwerp 'open data', wordt samengewerkt.

Formaliteit van de samenwerking

U heeft zojuist toegelicht welk samenwerkingsverband voor uw gemeente de belangrijkste rol speelt als het aankomt op het onderwerp "open data". Over dit samenwerkingsverband willen we u tot slot graag een aantal vragen stellen.
[]Wordt er binnen het door u zojuist genoemde samenwerkingsverband enkel samengewerkt op het onderwerp 'open data'? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was 'Andere' bij vraag '20 [E22]' (Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente heet en aangeven welke gemeenten en andere instanties hierin samenwerken?)

Kies één van de volgende mogelijkheden:

○ De samenwerking binnen dit samenwerkingsverband is uitsluitend op het onderwerp 'open data'.

○ De samenwerking binnen dit samenwerkingsverband overschrijd het onderwerp van 'open data'.

○ Weet ik niet

Andere onderwerpen kunnen uiteenlopen, enkele voorbeelden zijn: Ruimtelijke ordening, Verkeer en vervoer, Volkshuisvesting, Economische ontwikkeling.
[]Is het belangrijkste samenwerkingsverband op het gebied van 'open data' een publiekrechtelijke of een privaatrechtelijke vorm van samenwerking? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was 'Andere' bij vraag '20 [E22]' (Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente heet en aangeven welke gemeenten en andere instanties hierin samenwerken?)

Kies één van de volgende mogelijkheden:

○ Publiekrechtelijk

○ Privaatrechtelijk

○ Weet ik niet

[]Om welke vorm van samenwerking gaat het? (Op onderstaande webpagina kunt u een korte toelichting vinden voor elke samenwerkingsvorm) *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was 'Andere' bij vraag '20 [E22]' (Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente heet en aangeven welke gemeenten en andere instanties hierin samenwerken?) *en* Antwoord was 'Publiekrechtelijk' bij vraag '22 [E5]' (Is het belangrijkste samenwerkingsverband op het gebied van 'open data' een publiekrechtelijke of een privaatrechtelijke vorm van samenwerking?)

Kies één van de volgende mogelijkheden:

○ Openbaar lichaam

○ Gemeenschappelijk orgaan

○ Centrumgemeente constructie

○ Regeling zonder meer

○ Bedrijfsvoeringsorganisatie

○ Commissie ex art. 82 Provinciewet

○ Commissie ex art. 84 Gemeentewet

○ Weet ik niet

[]Om welke vorm van samenwerking gaat het? (Op onderstaande webpagina kunt u een korte toelichting vinden voor elke samenwerkingsvorm) *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was 'Andere' bij vraag '20 [E22]' (Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente

heet en aangeven welke gemeenten en andere instanties hierin samenwerken?) *en* Antwoord was 'Privaatrechtelijk' bij vraag '22 [E5]' (Is het belangrijkste samenwerkingsverband op het gebied van 'open data' een publiekrechtelijke of een privaatrechtelijke vorm van samenwerking?)

Kies één van de volgende mogelijkheden:

- ○ Stichting
- ○ Vereniging
- ○ Naamloze vennootschap
- ○ Besloten vennootschap
- ○ Coöperatie
- ○ Privaatrechtelijk convenant
- ○ Privaatrechtelijke overeenkomst
- ○ Weet ik niet

[]Om welke vorm van samenwerking gaat het? (Op onderstaande webpagina kunt u een korte toelichting vinden voor elke samenwerkingsvorm) *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was 'Andere' bij vraag '20 [E22]' (Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente heet en aangeven welke gemeenten en andere instanties hierin samenwerken?) *en* Antwoord was 'Weet ik niet' bij vraag '22 [E5]' (Is het belangrijkste samenwerkingsverband op het gebied van 'open data' een publiekrechtelijke of een privaatrechtelijke vorm van samenwerking?)

Kies één van de volgende mogelijkheden:

- ○ Openbaar Lichaam
- ○ Gemeenschappelijk orgaan

- ○ Centrumgemeente constructie
- ○ Regeling zonder meer
- ○ Bedrijfsvoeringsorganisatie
- ○ Commissie ex art. 82 Provinciewet
- ○ Commissie ex art. 84 Gemeentewet
- ○ Stichting
- ○ Vereniging
- ○ Naamloze vennootschap
- ○ Besloten vennootschap
- ○ Coöperatie
- ○ Privaatrechtelijk convenant
- ○ Privaatrechtelijke overeenkomst
- ○ Weet ik niet

[]Wat waren voor uw gemeente de motieven voor de keuze voor deze specifieke samenwerkingsvorm (in plaats van een andere samenwerkingsvorm?) U kunt maximaal drie motieven aangeven die voor uw gemeente het belangrijkste zijn.

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord ONGELIJK 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?) *en* Antwoord was 'Andere' bij vraag '20 [E22]' (Kunt u toelichten hoe het belangrijkste samenwerkingsverband op het onderwerp 'open data' binnen uw gemeente heet en aangeven welke gemeenten en andere instanties hierin samenwerken?)

Kies tussen de 1 en 3 antwoorden

Selecteer alle mogelijkheden:

☐ Slagvaardigheid van de samenwerking (effectieve en snelle aanpak van de problemen)

☐ Kosten/baten van de samenwerking

☐ Democratisch gehalte van de samenwerking (voldoende invloed van uw gemeente op de samenwerking)

☐ Financiële en/of fiscale redenen

☐ Flexibiliteit bij aangaan, opheffen of inrichting van de samenwerking

☐ Niet verplichtend karakter van de samenwerking

☐ De deelnemers hebben controle op de samenwerking

☐ De rechtspositie van ons personeel

☐ Aansprakelijkheidsregeling van bestuurders

☐ Inbreng van private partijen

☐ We zijn door anderen gevraagd mee te doen aan deze vorm van samenwerking

☐ Geen specifiek motief

☐ Weet niet

☐ Overig motief, namelijk:

Uw gemeente en open data

U gaf aan dat uw gemeente reeds nog niet met het onderwerp open data bezig is. Graag willen wij u een paar vragen stellen aangaande uw verwachtingen voor de toekomst als het aankomt op het onderwerp "open data".
[]Kunt u kort aangeven waarom uw gemeente zich reeds nog niet bezig houdt met het onderwerp "open data"?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord was 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Vul uw antwoord hier in:

Bijv. gebrek aan capaciteit, onderwerp staat niet op de beleidsagenda
[]Verwacht u dat uw gemeente zich in de nabije toekomst wel bezig zal gaan houden met het onderwerp "open data"? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord was 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?)

Kies één van de volgende mogelijkheden:

- ○ Ja
- ○ Nee
- ○ Weet ik niet

[]In welke mate verwacht u dat samenwerking met andere gemeenten aanwezig zal zijn op het onderwerp "open data"? *

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord was 'Helemaal niet' bij vraag '1 [A1]' (In welke mate is uw gemeente bezig met het onderwerp "open data"?) *en* Antwoord ONGELIJK 'Nee' bij vraag '28 [F4]' (Verwacht u dat uw gemeente zich in de nabije toekomst wel bezig zal gaan houden met het onderwerp "open data"?)

Kies één van de volgende mogelijkheden:

- ○ Helemaal niet
- ○ Nauwelijks
- ○ Enigszins
- ○ In redelijke mate
- ○ In hoge mate

○ In zeer hoge mate

○ Weet ik niet

○

Uw gemeente en samenwerking op het gebied van open data

U gaf aan dat uw gemeente niet samenwerkt met andere gemeenten op het onderwerp open data. Graag willen wij van u weten waarom uw gemeente er voor heeft gekozen om geen samenwerking aan te gaan.
[]Waarom heeft uw gemeente er voor gekozen om niet samen te werken met andere gemeenten op het onderwerp open data?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord was 'Helemaal niet' bij vraag '2 [A2]' (In welke mate werkt uw gemeente op het onderwerp "open data" samen met andere gemeenten?)

Selecteer alle mogelijkheden:

☐ Het is effectiever en sneller om het onderwerp alleen op te pakken

☐ De kosten van samenwerking op dit onderwerp zijn waarschijnlijk hoger dan de baten

☐ Samenwerking op dit onderwerp doet af aan het democratisch gehalte van de gemeente

☐ Er zijn geen gemeenten waarmee wij samen zouden kunnen werken op dit onderwerp

☐ Weet ik niet

☐ Er zijn andere redenen om niet met andere gemeenten samen te werken op het onderwerp open data, namelijk::

Afsluitende vragen

[]Wilt u de uitslagen van dit onderzoek ontvangen? *

Kies één van de volgende mogelijkheden:

○ Ja

○ Nee

[]U heeft aangegeven de uitslagen van dit onderzoek te willen ontvangen, op welk e-mail adres wilt u de resultaten ontvangen?

Beantwoord deze vraag alleen als aan de volgende voorwaarden is voldaan:
Antwoord was 'Ja' bij vraag '31 [F2]' (Wilt u de uitslagen van dit onderzoek ontvangen?)

Vul uw antwoord hier in:

[]Heeft u, naar aanleiding van de vragenlijst, nog verdere op- of aanmerkingen?

Vul uw antwoord hier in:

Hartelijk dank voor uw bijdrage in het onderzoek "Gemeenten, Samenwerking & Open Data"!
Verzend uw enquête.
Bedankt voor uw deelname aan deze enquête!

APPENDIX II – INTRODUCTORY E-MAIL CITY MANAGER

Geachte <heer/mevrouw> <achternaam>,

In het onderzoeksproject “gemeenten, samenwerking en open data”, uitgevoerd door de Universiteit Twente, wordt voor 45 middelgrote gemeenten gekeken naar de relatie tussen de mate waarin zij hun data open beschikbaar maken voor de burger en de mate van intergemeentelijke samenwerking op het gebied van open data. Uw gemeente, Hoorn, is een van de geselecteerde gemeenten.

Op dit moment zijn wij op zoek naar de geschikte contactpersoon binnen uw gemeente, met expertise op het gebied van open data, die in het kader van dit onderzoek een korte vragenlijst (max. 10 minuten) kan invullen. De data verstrekt door uw gemeente in het kader van dit onderzoek, zal anoniem verwerkt worden. Dit wil zeggen dat uit de publicatie die aan het onderzoek ten grondslag ligt, niet opgemaakt kan worden welke gegevens van uw gemeente afkomstig zijn.

Graag willen wij u vragen, of u voor ons de contactgegevens heeft van een medewerker/leidinggevende binnen uw organisatie, die zich bezig houdt met informatievoorziening, automatisering en open data.

Mocht u meer informatie willen ontvangen over dit onderzoek, dan kunt u contact opnemen met Lars Mol, uitvoerder van dit onderzoek, per e-mail (l.mol@student.utwente.nl) of telefonisch (06-23416825).

Met vriendelijke groet en bij voorbaat dank voor uw medewerking,

Kees Aarts
Hoogleraar Politicologie
Universiteit Twente

Veronica Junjan
Docent Public Management
Universiteit Twente

APPENDIX III – REMINDER E-MAIL CITY MANAGER

Geachte <heer/mevrouw> <Achternaam>,

Op 25 april jongstleden heeft u van ons onderstaande e-mail ontvangen in verband met het onderzoeksproject “gemeenten, samenwerking en open data”, uitgevoerd door de Universiteit Twente. Deelname van de gemeente Gouda aan dit onderzoek is van groot belang, om het onderzoek zo goed mogelijk uit te kunnen voeren.

Vandaar dat wij u alsnog graag vriendelijk willen vragen of u voor ons het e-mailadres van een geschikte contactpersoon binnen uw gemeente heeft. Die in het kader van dit onderzoek een korte vragenlijst (max. 10 minuten) kan invullen. De contactpersoon heeft idealiter expertise op het gebied van open data en expertise op het gebied van eventuele samenwerking omtrent open data met andere gemeenten.

We kijken met veel belangstelling uit naar uw reactie.

Met vriendelijke groet,

Kees Aarts
Hoogleraar Politicologie
Universiteit Twente

Veronica Junjan
Docent Public Management
Universiteit Twente

Lars Mol
Universiteit Twente

APPENDIX IV – INVITATION QUESTIONNAIRE PERSONAL

Geachte {HEER/MEVROUW DEPENDENT ON GENDER} {LASTNAME},

Kortgeleden heeft u aangegeven bereid te zijn namens uw gemeente, {GEMEENTENAAM}, een korte vragenlijst (circa 10 min.) in te vullen in het kader van het onderzoeksproject "Gemeenten, Samenwerking en Open Data". Binnen dit onderzoek, uitgevoerd door de Universiteit Twente, wordt voor 45 middelgrote gemeenten gekeken naar de relatie tussen de mate waarin zij hun data open beschikbaar maken voor de burger en de mate van intergemeentelijke samenwerking op het onderwerp "open data".

Uw kennis is voor ons van essentieel belang om dit onderzoek zo goed mogelijk uit te kunnen voeren en stellen wij dus ook zeer op prijs. Vanzelfsprekend blijft, bij de verwerking van de gegevens, uw anonimiteit, gewaarborgd.

Voor nadere informatie kunt u contact opnemen met Lars Mol, uitvoerder van dit onderzoek, per e-mail (l.mol@student.utwente.nl) of telefonisch (06-23416825).

Indien u de resultaten van dit onderzoek wilt ontvangen, dan kunt u uw e-mail adres achterlaten na het invullen van de vragenlijst. Zodra het onderzoek afgerond is, zullen wij u dan de resultaten doen toekomen.

U kunt de vragenlijst starten door te klikken op onderstaande link:
{SURVEYURL}

Nogmaals hartelijk dank voor uw medewerking en met vriendelijke groet,

Lars Mol
BSc European Public Administration

Universiteit Twente

Begeleiders van het onderzoek:

Kees Aarts
Hoogleraar politicologie
Universiteit Twente

Veronica Junjan
Docent Public Management
Universiteit Twente

APPENDIX V – INVITATION QUESTIONNAIRE REFERRAL

Geachte {heer/mevrouw dependent on gender} {LASTNAME},

In het onderzoeksproject "gemeenten, samenwerking en open data", uitgevoerd door de Universiteit Twente, wordt voor 45 middelgrote gemeenten gekeken naar de relatie tussen de mate waarin zij hun data open beschikbaar maken voor de burger en de mate van intergemeentelijke samenwerking op het gebied van open data. Uw gemeente {GEMEENTENAAM}, is een van de geselecteerde gemeenten.

Kortgeleden hebben wij via {REFERENTIENAAM} uw contactgegevens doorgekregen, opdat wij u konden benaderen in het kader van dit onderzoek. Graag willen wij u vragen om een korte vragenlijst (circa 10 min.) in te vullen.

Uw kennis is voor ons van essentieel belang om dit onderzoek zo goed mogelijk uit te kunnen voeren en stellen wij dus ook zeer op prijs. Vanzelfsprekend, blijft bij de verwerking van de gegevens uw anonimiteit gewaarborgd.

Voor nadere informatie kunt u contact opnemen met Lars Mol, uitvoerder van dit onderzoek, per e-mail (l.mol@student.utwente.nl) of telefonisch (06-23416825).

Indien u de resultaten van dit onderzoek wilt ontvangen, dan kunt u uw e-mail adres achterlaten na het invullen van de vragenlijst. Zodra het onderzoek afgerond is, zullen wij u dan de resultaten doen toekomen.

U kunt de vragenlijst starten door te klikken op onderstaande link:
{SURVEYURL}

Nogmaals hartelijk dank voor uw medewerking en met vriendelijke groet,

Lars Mol
BSc European Public Administration
Universiteit Twente

Begeleiders van het onderzoek:

Kees Aarts
Hoogleraar politicologie
Universiteit Twente

Veronica Junjan
Docent Public Management
Universiteit Twente

APPENDIX VI – INVITATION QUESTIONNAIRE NO RESPONSE

Geachte {heer/mevrouw dependent on gender} {LASTNAME},

Op 25 april en 2 mei jongstleden heeft u van ons e-mails ontvangen, waarin wij u uitnodigen om deel te nemen in het onderzoeksproject "Gemeenten, Samenwerking en Open data". Het onderzoek wordt uitgevoerd door de Universiteit Twente, en onderzoekt voor 45 middelgrote gemeenten of er een relatie is tussen de mate waarin deze hun data open beschikbaar maken voor de burger en de mate van intergemeentelijke samenwerking op het gebied van open data.

Tot op heden hebben 30 gemeenten aangegeven aan het onderzoek mee te willen werken. Echter om het onderzoek zo goed mogelijk uit te kunnen voeren, zijn ook de inzichten van uw gemeente, {GEMEENTENAAM} van groot belang.

Graag willen wij u dan ook nogmaals vriendelijk verzoeken of u deze e-mail door kunt sturen aan iemand binnen uw gemeente met expertise op het gebied van "open data" en eventuele samenwerking op het onderwerp "open data". Die in het kader van dit onderzoek een korte vragenlijst (circa 10 min.) kan invullen.

Voor nadere informatie kunt u contact opnemen met Lars Mol, uitvoerder van dit onderzoek, per e-mail (l.mol@student.utwente.nl) of telefonisch (06-23416825).

De vragenlijst kan worden gestart door te klikken op onderstaande link:
{SURVEYURL}

Bij voorbaat hartelijk dank voor uw medewerking en met vriendelijke groet,

Lars Mol
BSc European Public Administration
Universiteit Twente

Begeleiders van het onderzoek:

Kees Aarts
Hoogleraar politicologie
Universiteit Twente

Veronica Junjan
Docent Public Management
Universiteit Twente

APPENDIX VII – REMINDER QUESTIONNAIRE

Geachte {heer/mevrouw dependent on gender} {LASTNAME},

Recent bent u uitgenodigd om deel te nemen aan het onderzoeksproject "Gemeenten, Samenwerking & Open Data". Binnen dit onderzoek uitgevoerd door de Universiteit Twente, wordt voor 45 middelgrote gemeenten gekeken of er een relatie bestaat tussen de mate waarin deze hun data open beschikbaar maken voor de burger en de mate van intergemeentelijke samenwerking op het gebied van open data. We hebben geconstateerd dat u nog niet aan het onderzoek hebt deelgenomen en willen u er bij deze aan herinneren dat het onderzoek nog loopt en dat u, als u dat wilt, nog kan deelnemen.

Voor een gedegen uitvoering van het onderzoek zijn de inzichten van uw gemeente, {GEMEENTENAAM}, van groot belang en wij stellen uw deelname dan ook zeer op prijs.

U kunt de vragenlijst starten door te klikken op onderstaande link:
{SURVEYURL}

Indien u nog vragen heeft aangaande dit onderzoek, dan kunt u contact opnemen met Lars Mol, uitvoerder van dit onderzoek, per e-mail (l.mol@student.utwente.nl) of telefonisch (06-23416825).

We kijken er naar uit de inzichten vanuit uw gemeente te mogen ontvangen.

Met vriendelijke groet,

Lars Mol
BSc European Public Administration
Universiteit Twente

Begeleiders van het onderzoek:

Kees Aarts
Hoogleraar Politicologie
Universiteit Twente

Veronica Junjan
Docent Public Management
Universiteit Twente

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * Hoevaak is er binnen de samenwerking op het onderwerp van "open data" contact met andere gemeenten? Crosstabulation

			Hoevaak is er binnen de samenwerking op het onderwerp van "open data" contact met andere gemeenten?			
			Eens per Kwartaal	Maandelijks	Wekelijks	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	9	2	2	13
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	69,2%	15,4%	15,4%	100,0%
	Ja	Count	0	4	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	80,0%	20,0%	100,0%
Total		Count	9	6	3	18
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	50,0%	33,3%	16,7%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [E-mail] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking? Crosstabulation

			[E-mail] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking?					
			Nooit	Zelden	Soms	Vaak	(Bijna) altijd	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	1	2	6	3	4	16
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	6,2%	12,5%	37,5%	18,8%	25,0%	100,0%
	Ja	Count	0	0	1	3	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	0,0%	20,0%	60,0%	20,0%	100,0%
Total		Count	1	2	7	6	5	21
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	4,8%	9,5%	33,3%	28,6%	23,8%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Chat] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking? Crosstabulation

			[Chat] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking?					
			Nooit	Zelden	Soms	Vaak	(Bijna) altijd	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	6	2	1	0	1	10
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	60,0%	20,0%	10,0%	0,0%	10,0%	100,0%
	Ja	Count	1	0	0	1	0	2
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	50,0%	0,0%	0,0%	50,0%	0,0%	100,0%
Total		Count	7	2	1	1	1	12
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	58,3%	16,7%	8,3%	8,3%	8,3%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Telefoon] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking? Crosstabulation

			[Telefoon] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking?					
			Nooit	Zelden	Soms	Vaak	(Bijna) altijd	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	1	4	7	2	1	15
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	6,7%	26,7%	46,7%	13,3%	6,7%	100,0%
	Ja	Count	0	0	3	1	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	0,0%	60,0%	20,0%	20,0%	100,0%
Total		Count	1	4	10	3	2	20
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	5,0%	20,0%	50,0%	15,0%	10,0%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Face to Face] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking? Crosstabulation

			[Face to Face] [Schaal 1] Hoevaak wordt er gebruik gemaakt van de volgende manieren van communicatie binnen de samenwerking?				
			Zelden	Soms	Vaak	(Bijna) altijd	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	2	7	5	2	16
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	12,5%	43,8%	31,2%	12,5%	100,0%
	Ja	Count	0	3	1	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	60,0%	20,0%	20,0%	100,0%
Total		Count	2	10	6	3	21
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	9,5%	47,6%	28,6%	14,3%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Samenwerking van managers binnen uw gemeente met managers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats? Crosstabulation

			[Samenwerking van managers binnen uw gemeente met managers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?		
			Niet geselecteerd	Ja	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	13	5	18
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	72,2%	27,8%	100,0%
	Ja	Count	4	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	80,0%	20,0%	100,0%
Total		Count	17	6	23
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	73,9%	26,1%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Samenwerking van beleidsmedewerkers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats? Crosstabulation

			[Samenwerking van beleidsmedewerkers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?		
			Niet geselecteerd	Ja	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	2	16	18
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	11,1%	88,9%	100,0%
	Ja	Count	1	4	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	20,0%	80,0%	100,0%
Total		Count	3	20	23
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	13,0%	87,0%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Samenwerking van managers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats? Crosstabulation

			[Samenwerking van managers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?		
			Niet geselecteerd	Ja	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	17	1	18
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	94,4%	5,6%	100,0%
	Ja	Count	5	0	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	100,0%	0,0%	100,0%
Total		Count	22	1	23
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	95,7%	4,3%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Samenwerking van beleidsmedewerkers binnen uw gemeente met managers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats? Crosstabulation

			[Samenwerking van beleidsmedewerkers binnen uw gemeente met managers binnen andere gemeenten] Op welk van de volgende organisatieniveaus vindt bij u in de gemeente samenwerking plaats?		
			Niet geselecteerd	Ja	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	17	1	18
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	94,4%	5,6%	100,0%
	Ja	Count	5	0	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	100,0%	0,0%	100,0%
Total		Count	22	1	23
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	95,7%	4,3%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Op managementniveau (samenwerking van managers binnen uw gemeente met managers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk van de organisatieniveaus Crosstabulation

			[Op managementniveau (samenwerking van managers binnen uw gemeente met managers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk van de organisatieniveaus				
			Nauwelijks	Enigszins	In redelijke mate	In hoge mate	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	1	2	1	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	20,0%	40,0%	20,0%	20,0%	100,0%
	Ja	Count	0	0	1	0	1
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	0,0%	100,0%	0,0%	100,0%
Total		Count	1	2	2	1	6
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	16,7%	33,3%	33,3%	16,7%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Op beleidsmedewerkerniveau (samenwerking van beleidsmedewerkers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk Crosstabulation

			[Op beleidsmedewerkerniveau (samenwerking van beleidsmedewerkers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk					
			Nauwelijks	Enigszins	In redelijke mate	In hoge mate	In zeer hoge mate	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	2	7	4	1	2	16
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	12,5%	43,8%	25,0%	6,2%	12,5%	100,0%
	Ja	Count	0	1	1	1	1	4
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	25,0%	25,0%	25,0%	25,0%	100,0%
Total		Count	2	8	5	2	3	20
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	10,0%	40,0%	25,0%	10,0%	15,0%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Managementniveau met beleidsniveau (samenwerking van managers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk v Crosstabulation

			[Managementniveau met beleidsniveau (samenwerking van managers binnen uw gemeente met beleidsmedewerkers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk v	
			Nauwelijks	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	1	1
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	100,0%	100,0%
Total		Count	1	1
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	100,0%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Beleidsniveau met managementniveau (samenwerking van beleidsmedewerkers binnen uw gemeente met managers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk va Crosstabulation

			[Beleidsniveau met management niveau (samenwerking van beleidsmedewerkers binnen uw gemeente met managers binnen andere gemeenten)] Binnen de vorige vraag heeft u aangegeven dat samenwerking plaatsvindt op de volgende organisatieniveaus. Kunt u voor elk va	
			Enigszins	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	1	1
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	100,0%	100,0%
Total		Count	1	1
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	100,0%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Door het gezamenlijk uitvoeren van een open data beleid] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren. Crosstabulation

			[Door het gezamenlijk uitvoeren van een open data beleid] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren.				
			Helemaal niet	Nauwelijks	Enigszins	In redelijke mate	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	7	1	2	4	14
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	50,0%	7,1%	14,3%	28,6%	100,0%
	Ja	Count	0	2	2	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	40,0%	40,0%	20,0%	100,0%
Total		Count	7	3	4	5	19
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	36,8%	15,8%	21,1%	26,3%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Door het gezamenlijk ontwikkelen van nieuw open data beleid] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren. Crosstabulation

			[Door het gezamenlijk ontwikkelen van nieuw open data beleid] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren.						
			Helemaal niet	Nauwelijks	Enigszins	In redelijke mate	In hoge mate	In zeer hoge mate	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	6	1	2	4	1	0	14
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	42,9%	7,1%	14,3%	28,6%	7,1%	0,0%	100,0%
	Ja	Count	0	3	1	0	0	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	60,0%	20,0%	0,0%	0,0%	20,0%	100,0%
Total		Count	6	4	3	4	1	1	19
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	31,6%	21,1%	15,8%	21,1%	5,3%	5,3%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Door het delen van beleidsmedewerkers (expertise/capaciteit)] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren. Crosstabulation

			[Door het delen van beleidsmedewerkers (expertise/capaciteit)] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren.					
			Helemaal niet	Nauwelijks	Enigszins	In redelijke mate	In hoge mate	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	4	3	2	3	3	15
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	26,7%	20,0%	13,3%	20,0%	20,0%	100,0%
	Ja	Count	0	1	1	2	1	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	0,0%	20,0%	20,0%	40,0%	20,0%	100,0%
Total		Count	4	4	3	5	4	20
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	20,0%	20,0%	15,0%	25,0%	20,0%	100,0%

Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse? * [Door het delen van facilitaire hulpbronnen (zoals een gezamenlijk dataportaal)] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren. Crosstabulation

			[Door het delen van facilitaire hulpbronnen (zoals een gezamenlijk dataportaal)] Graag willen wij van u weten in hoeverre uw gemeente op het onderwerp 'open data' samenwerkt met andere gemeenten op elk van de volgende manieren.						
			Helemaal niet	Nauwelijks	Enigszins	In redelijke mate	In hoge mate	In zeer hoge mate	Total
Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	Nee	Count	7	1	1	2	0	1	12
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	58,3%	8,3%	8,3%	16,7%	0,0%	8,3%	100,0%
	Ja	Count	1	0	2	1	1	0	5
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	20,0%	0,0%	40,0%	20,0%	20,0%	0,0%	100,0%
Total		Count	8	1	3	3	1	1	17
		% within Maakt de gemeente ook data open beschikbaar volgens onze secundaire data analyse?	47,1%	5,9%	17,6%	17,6%	5,9%	5,9%	100,0%