

Establishing an administrative cockpit in the municipality of Enschede

How the process and the use of a participatory design
influenced the composition and content of cockpit 053

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1. Introduction

Recently, the local authority of Enschede, a Dutch municipality, started the process of setting up a cockpit containing information and performance measurement indicators for the local administration. Enschede's local government is currently dealing with new tasks and responsibilities due to the process of decentralization, as well as with specific challenges. They have formulated three strategic economic goals they aim to achieve. On the other policy areas, strategic goals are somewhat less clear. The strategic economic goals are to diminish the disadvantages of being near the German border, to slow down the shrinking of the labor force and finally, to improve the business climate. In order to reach these goals, several directors within the administration formulated assignments which aim to help reach these strategic economic goals.

One of these assignments is to set up an administrative cockpit to monitor whether the assignments and the strategic economic goals are within reach. This cockpit has to contain information for the administration, which will allow them to better govern the city. Furthermore, performances indicators have to be included, which inform the administration about whether the strategic economic goals are within reach and help determine which policies are paying off in reaching these goals. Beyond the economic goals, indicators on other policy areas will be included as well. For now, no indicators with new data are to be developed, but data that is already present in the organization has to be used to set up indicators. The eventual goal of the administrative cockpit is to develop it into a business intelligence unit for the entire city.

This thesis analyzes the process of setting up this administrative cockpit in Enschede in order to see in what way the process and use of participatory design methods influence the content and composition of the cockpit. The following research question is formulated: *In what way has the process of setting up an administrative cockpit for Enschede and the use of participatory design methods influenced the design and implementation of a set of performance indicators for the economic strategic goals and other policies in the cockpit?*

In order to gain understanding regarding the process of setting up the cockpit, several theoretical insights are employed, which are introduced below. In order to answer the research questions, several sub questions are formulated below as well.

1.1 Theoretical Insights

This thesis draws upon theoretical insights regarding performance measurement. The theoretical framework discusses three strands of theory that relate to performance measurement, and that will allow analyzing the case of the cockpit in Enschede. First, theory relating to performance measurement in general is discussed. Second, theory on the process towards performance

measurement is discussed and finally, a method for designing a performance measurement system is discussed; participatory design. It is expected that by combining these theoretical insights, the content and composition of the cockpit can be explained.

The theoretical insights that form the base of the theoretical framework are those based on performance measurement. As a result of the New Public Management trend, it has become increasingly essential for policy makers to monitor their policies, products and services, because this is their core business (Van Thiel and Leeuw, 2002). This is central to performance measurement, where indicators are set up to monitor the policies set in motion, and consider whether these policies are reaching the goals that were set up in time. These indicators are variables which show whether the set up policy or service is reaching its targets. Performance measurement on government programs has gained importance in public administration research (Julnes and Holzer, 2008) and with local authorities receiving more tasks and responsibilities. This research now has to be extended to include performance measurement for local authorities. Several scholars have already done so (Boyne, 2002; Rogers, 1999), providing theoretical insights in how performance measurement can be translated and used on the local public sector level. Furthermore, Marr (2008) a "local authority on strategic performance management" (p.9) provides insights into how the public sector and non-profit organization can employ performance measurement. These insights are also employed and translated to local authorities, including a set of do's and don'ts provided by Marr (2008) in the theoretical framework.

The second strand of theory that is added to the theoretical framework is the process towards a performance measurement system. A take on the steps of a process towards a performance measurement system as formulated by Flapper et al. (1996) is discussed and is combined with the notion by Lohman (2004) regarding the influence of existing measures and problems within an organization when designing a new performance measurement system. This process and these difficulties are potential problems in any organization's process towards a performance measurement system.

Finally, in setting up the administrative cockpit the project team has stated they value the input of the eventual users of the cockpit, involving them in the design process. This is labelled participatory design. Participatory design is a method that originated in computer design, involving those who will be using a system in designing it. Since then, participatory design has travelled into other domains as well, including the public sector, and no longer merely revolves around designing computer systems (Sanoff, 2006). The expectation is that if users are involved in designing a system, this system will have more legitimacy and will be better valued by users. Hence, if the cockpit's project team includes the users of the cockpit in the design process, it is expected the cockpit will be better valued, used and thereby more successful.

1.2 Sub questions

In order to answer this thesis' research question, which was formulated above, several sub questions are formulated also, to help answer the main question.

1. What is known theoretically and from previous research about the process towards a performance measurement system, what steps are generally taken and what does this mean for the actual design and implementation of a performance measurement system?
2. How did the process towards a performance measurement system in Enschede develop?
3. Did the cockpit project team employ elements of participatory design as planned? What elements or methods were employed, what was the result of this and in what way were the inputs translated into the eventual cockpit?
4. How did the cockpit project team deal with implementing performance measurement indicators in the administrative cockpit? How were the indicators determined, were the do's and don'ts (Marr, 2008) followed and what were the consequences of this?

These sub questions, as well as the main research question, are answered in the conclusion of this thesis.

1.3 Aim, scientific and societal relevance

This thesis aims to analyze the design process of the administrative cockpit in Enschede and explain how the process and use of participatory design methods influence the content and composition of the administrative cockpit. It takes the form of a case study, in which the process of setting up an administrative cockpit for Enschede is observed and analyzed. Furthermore, the writing of this thesis was combined with an internship with the project team. Hence, it employs a participatory observational research method. By participating in, observing and analyzing the process of designing and implementing a performance measurement system, it is expected that further understanding can be created in the influence of a process on the actual system it aims to develop. Furthermore, the process of implementing performance measurement in a local authority is a complex one (Marr, 2008). By analyzing the way in which Enschede has employed performance measurement indicators, we will gain further understanding of how to successfully (or not successfully) implement performance measurement in local authorities. Scholars on this topic have given us advice on how to do this, which will be followed where possible.

Hence, regarding the scientific relevance, this thesis explores the influence of a process towards performance measurement and the use of participatory design methods on designing an administrative cockpit containing performance measurement indicators. Thereby, we will gain further understanding of how the process towards performance measurement and the use of

participatory design methods can influence the content and composition of a performance measurement system. Furthermore, it will give us further general insights in the process of local authorities designing performance measurement systems, including the prerequisite of using existing data within the organization.

Regarding the societal relevance, this thesis will help gain more understanding of the process in which local authorities aim at better informing their administration and implementing performance measurement indicators to monitor their strategic goals. As local authorities are gaining more tasks and responsibilities, how they handle and monitor these and how the process of setting up an administrative cockpit is managed to understand these processes better is to help local authorities who aim to undergo the same process in the future. Furthermore, by improving the understanding of these processes and understanding what elements in a process influence the composition and outcome of a performance measurement system; this will help local authorities in designing not just the systems, but thinking more carefully about the processes towards these systems as well.

This thesis has shown that there were several elements during the process that led to there not being a first version of the cockpit in place after the three month timeframe. The project leader played an important role in this making the decisions that led to there not being a first version of the cockpit in place, even though the influence of a project leader during the process and on a performance measurement system was not theorized in the theoretical framework.

Summary

Regarding the outline of this thesis; chapter 2, presents the theoretical framework that is designed to analyze a process towards setting up a performance measurement system, including the use of participatory design methods. This chapter concludes with expectations for the case of Enschede in the process of setting up their administrative cockpit. This framework is operationalized in chapter 3, which also discusses the methods of participatory design and participatory observation that are employed. Chapter 4 provides an overview of the background of the case of Enschede, with the main information that is needed to move on to the analysis, which is presented in chapter 5. Finally, chapter 6 presents the answers to the sub and main research question, and provides recommendations for further research.

2. Theoretical Framework

2.1 Introduction

This chapter sets out the theoretical framework designed for this thesis. It discusses performance measurement in general, the process towards performance measurement and participatory design. The idea is that by combining these different strands and applying them to the case of Enschede's administrative cockpit, it will allow to describe how the process of setting up the administrative cockpit has developed, why this is the case, and how this may differ from what the theory expects. From this, it will be possible to answer the research questions formulated in the introduction chapter.

This theoretical framework first discusses performance measurement in general. Performance measurement in the public sector employs private sector tools and measures to monitor policies and goals (Van Thiel and Leeuw, 2002), which followed from New Public Management. Section 2.2 discusses the two main models for performance measurement, the 3E's model and the IOO model, before moving on to different types of indicators and difficulties with establishing outcome indicators in a performance measurement system. Then, this chapter moves on to the process of designing and establishing a performance measurement system. It first discusses general do's and don'ts by Marr (2008) when designing and implementing performance measurement. It provides a take on the process, and provides further insights into the role of existing performance reporting and indicators in a process to establish a new performance measurement system.

The final strand of theory this theoretical framework builds upon is participatory design. Participatory design is a method that is implemented in both business and the public sector that aims to include users of a system in designing it. It originated in computer design, by including workers in designing computer systems, both could be more effective. Since then, participatory design traveled to the public domain as well. Participatory design can be used in designing work systems in the public sector, but it has also traveled into communities and citizens participating more on the local level (Sanoff, 2006). Section 2.2 elaborates on participatory design theory, discussing its merits, steps to be followed and methods that can be employed when using participatory design in practice. Participatory design and project management might seem contradictory. This however, is not necessarily the case if part of the project goal is to use participatory design in some way. Finally, section 2.5 provides expectations regarding the performance measurement system, the process and the use of participatory design methods for the case of Enschede.

2.2 Performance Measurement

Performance measurement gained importance in the public sector with the rise of *New Public Management* (NPM) (van Thiel and Leeuw, 2002). The key to NPM is to improve the efficiency and effectiveness of the public sector, while at the same time cutting public sector budgets. In order to achieve these goals, private sector tools and measures were introduced and implemented in the public sector, performance measurement being among these tools. Van Thiel and Leeuw (2002) state that the practitioner theory behind NPM is the idea that “politicians should stick to their core business, that is, developing new policies to realize (political) goals” (p.268). If however, this is the main goal for the public sector, it follows that it becomes essential to monitor these policies, and whether these are actually contributing to reaching these goals. This is central to performance measurement, where indicators are set up to monitor the policies set in motion, and consider whether these policies are reaching the goals that were set up in time. These indicators are variables which show whether the set up policy or service is reaching its targets.

Programs designed to measure and improve the performance of policies in the public sector, were first set up on the national level. Examples are the UK’s Public Service Improvement strategy and the US’ federal government’s National Performance Review and Government Performance Results Act (Boyne and Walker, 2004). As mentioned above, performance measurement programs are becoming more relevant for local authorities as well, due to the processes of decentralization. With the trend of decentralization, local authorities are receiving more tasks and responsibilities from national governments. With these tasks and responsibilities often come restricted budgets. In the Netherlands for example, municipalities recently gained more responsibilities regarding social services. At the same time, their budgets are not increasing at the same pace as their tasks. Therefore, performance measurement is becoming an increasingly important aspect for local authorities, because this allows them to monitor whether they are on track in reaching their goals and not overspending.

2.2.1 The 3E's and the IOO model

Most scholars in performance measurement draw on the two main models; the 3E's model which includes the elements of Economy, Efficiency and Effectiveness and the Inputs-Outputs-Outcomes (IOO) model (Boyne, 2002). The 3E's model articulates necessary components for a set of performance indicators for a public sector organization, including local authorities (Boyne, 2002). The first E refers to economy, the costs of producing a particular public service input (Boyne, 2002). Second, efficiency can be defined in two ways; technical efficiency, which is the cost of unit per output, or allocative efficiency, which is about whether services respond to public preferences

(Boyne, 2002). Most implementations of the 3E's model adopt the first definition, because it is difficult to determine indicators for allocative efficiency. Finally, effectiveness refers to the achievement of the service's formal objectives (Boyne, 2002). Indicators for all three elements, make up a full set of performance measurement indicators.

The IOO model, Inputs, Outputs and Outcomes, takes into account the same elements of the 3E's model, but adds to this. First, the efficiency takes into account the ratio of inputs to outputs, both of which are included in the IOO model (Boyne, 2002). The outcomes also take into account the formal effectiveness, another element of the 3E's model. Moreover, the outcomes are not only about formal effectiveness, but refer also to the impact of a service, including potential positive or negative side-effects (Boyne, 2002). The outcome indicators are most difficult to establish, but at the same time these are very important to include when measuring public services, because the impact and the side effects are essential to the public sector. However, the IOO model does consider local authorities mainly as public service providers, but does not sufficiently take into account the role they should play in democratic government (Boyne, 2002).

When determining a set of performance indicators, it is therefore important to take into account outcome indicators. Boyne (2002) sets up his own model when measuring performance in local government. His model consists of five domains, one of these is outcomes. The dimensions that belong to outcomes are formal effectiveness, impact, equity and cost per unit of service outcome. Furthermore, Boyne (2002) also adds the domains of responsiveness and democratic outcomes to his list of performance indicators for organizational performance of local governments. His list however, is difficult to achieve, especially regarding the three domains discussed. Boyne (2002) notes that performance indicators have undergone somewhat of a transformation. More recent performance indicators are more directed to service quality, efficiency and formal effectiveness. However, the concepts still need further refinement regarding the operationalization (Andrews, Boyne, Moon and Walker, 2010; Boyne, 2002).

2.2.2 An indicator typology

The indicators that can be added to a performance measurement system are not all similar in nature. Flapper, Fortuin and Stoop (1996) designed a typology of indicators, which is added to this theoretical framework to create more clarity about the nature of indicators that could be added to a performance measurement system. First, there are financial versus nonfinancial indicators. Traditionally, there were mostly financial indicators in performance measurement systems, which were used to determine an organization's health (Flapper et al., 1996). However, there was a general awareness that for a full performance measurement system, indicators of a nonfinancial nature need

to be added as well. Second, global versus local. Global performance indicators are those for the top level of an organization, whereas local performance indicators serve lower levels of an organization (Flapper et al., 1996). Third, internal versus external indicators. An internal performance indicator is used for monitoring the organization's performance on those elements relevant for the internal functioning of the organization. External indicators on the other hand, assess the organization's performance as experienced by clients, customers or suppliers. Hence these could also be applicable to a certain part of the organization (Flapper et al., 1996). Fourth, organizational hierarchy. Depending on the organization structure of an organization, there are certain vertical relations between indicators in place. The hierarchy help to aggregate a larger number of indicators at a lower level into fewer indicators at a higher level (Flapper et al., 1996). Their final type, area of application is only applicable to private organizations, as they state that different departments, sales, marketing and operations, all need their own indicators.

2.2.3 The role of outcomes

The role of outcomes in performance measurement was already touched upon above. This section looks further into outcomes and explains why it is difficult to add these indicators to a performance measurement analysis, and what potential solutions for this problem is provided by the literature of performance measurement in the public sector. One important reason why developing outcome indicators are difficult, especially in the public sector, is because outcomes of many public policies depend on external factors (Marr, 2008). For example, a goal to spend less money on social services and a policy developed to reach this end is influenced by the state of the economy and unemployment levels. Indicators therefore, often cannot show the full picture of a policy's performance, if it excludes these environmental influences. This means that to measure outcomes some elements that influence the outcome cannot be measured (Marr, 2008). This only becomes a problem however, "when we try to use simple numbers to holistically measure things that can never be measured completely or comprehensively" (Marr, 2008, p.139). Often the object we want to measure, the outcomes of certain policies, have many different dimensions that we cannot comprehensively measure, so we only take one or two of these dimensions and use this as an indicator for the entire policy. This is problematic; especially when we decide to give what we cannot measure an arbitrary or quantitative value, disregard it, presume it is not important or pretend it does not exist (Marr, 2008).

What then is the solution to this problem? There is no new technique that allows us to measure what cannot be measured. The solution to the problem, according to Marr (2008) lies with the interpretation of the numbers, and on what grounds it is determined whether a policy is

successful. If a policy, product or service is valued entirely on figures from a performance measurement system; this will most likely not give a truthful picture. As "measures cannot capture the entire truth in an objective and comprehensive way" (Marr, 2008, p.140) it is important to treat these measures as indicators, recognizing their implications and limits. So, what is perhaps more important than the question how outcome indicators are designed, is how these indicators are treated when valuing a product, policy or service.

Furthermore, Marr (2008) stresses the importance of objectivity and comprehensiveness in determining and interpreting performance indicators. The point of objectivity relates to the performance paradox Van Thiel and Leeuw (2002) warn for, which is expanded upon below. When designing indicators it is important these cannot be influenced or manipulated to produce a better-looking picture, the indicators should not be easily corrupted. The point of comprehensiveness relates to the factors that might influence policies, products or services that we cannot measure. If we believe our indicators to be objective and comprehensive, we will be easily blinded by them, especially if they paint a satisfying picture, even if this might not be reality.

Although this section described benefits of performance measurement, it is also important to note that designing and implementing performance measurement indicators in the public sector is not without risks. Van Thiel and Leeuw (2002) warn for the Performance Paradox. This phenomenon refers to the process of performance indicators losing their value over time. The Performance Paradox is caused by four processes; social learning, a process in which indicators lose the ability to detect bad performance. Perverse learning, in which it becomes known what performance indicators measure and this information is used to manipulate performance assessment. Selection refers to the replacement of poor performers with better ones, reducing performance differences. Finally, suppression refers to a situation in which performance differences are ignored. These processes all refer to the performance indicators, which hold the risk of distorting the view of performance (van Thiel and Leeuw, 2002). The indicators could paint an overly positive or overly negative picture of performance. There is currently no reason to expect the Performance Paradox disappearing when performance measurement is employed at the local level. Hence, when designing and implementing performance indicators for the local level, it is important to keep each of the processes that can lead to the Performance Paradox in mind.

This section has discussed some of the basics of performance measurement itself, and goes on to focus on the process towards performance measurement. During this process, performance indicators are designed and eventually implemented, and the way this process is set up, can have important implications for the performance measurement system and its indicators. It then goes on to elaborate on participatory design, which is a method that can be applied in designing performance measurement systems.

2.3 Process towards performance measurement

The previous section discussed the basics of performance measurement; this section goes on to zoom in on the process towards designing and implementing a performance measurement system. As performance measurement originated in business, a lot of literature on the process towards performance measurement focuses on business as well. Some of this literature is explored here, but it is taken into account that this theoretical framework is designed to be applied to designing performance measurement for a local authority, which means some dynamics that are at play are different from those in business.

This section first discusses do's and don'ts as were formulated by Marr (2008) in setting up a performance measurement system, before moving on to discuss more detailed literature on processes towards performance measurement. As the process towards performance measurement is likely to affect the outcome and implications of the system itself, the process is an important part of this theoretical framework.

2.3.1 Do's and Don'ts in designing performance measurement

Marr (2008) does give some direct advice for designing performance indicators. The assessment of performance should be linked to a public organization's strategy; hence what should be measured is what matters most. It is unwise to measure every little thing an organization does. Furthermore, the performance indicators should fit the organization's information needs. He then provides an extensive list of Do's and Don'ts, which is discussed here.

1. "Do be clear about the functions of measurement and the way indicators are used" (Marr, 2008, p.153). Make sure to provide clarity regarding the indicator's functions and their purposes. This way, they will not create confusion about what the information is used for.
2. "Don't use indicators for additional top-down control" (Marr, 2008, p.153). This will promote the performance paradox phenomenon (Van Thiel and Leeuw, 2002) as was explained in the introduction.
3. "Don't tightly link indicators to incentives" (Marr, 2008, p.153). This is a mechanism that will also promote the arising of a performance paradox (Van Thiel and Leeuw, 2002) as people will be more inclined to cheat.
4. "Don't just measure everything that is easy to count" (Marr, 2008, p.154). This problem was described earlier. When you measure what is easily counted, you often do not measure what matters.

5. "Do link your indicators to your strategic objectives" (Marr, 2008, p.154). If this is done, it ensures that the indicators are a source of the most important information for an organization.
6. "Don't let the government or regulators determine your measurement priorities" (Marr, 2008, p.154). This will often mean adding irrelevant indicators, clouding what really matters. Only add what is part of your strategy.
7. Do identify key performance questions before any indicators are collected (Marr, 2008). These key performance questions have to establish the information needs.
8. "Don't measure just for the sake of measurement" (Marr, 2008, p.154). Make sure that the data that is collected is processed and used. Otherwise people will start to resent it.
9. "Don't just rely on numeric data" (Marr, 2008, p.154). As was established above, quantitative data alone is often not enough, as there is interaction going on, information about the context and environment is needed as well.
10. "Do create honesty and trust" (Marr, 2008, p.154). What is especially important to be open about, is the limitations of performance measurement (Marr, 2008).
11. "Do create an environment in which people feel in control of measurement" (Marr, 2008, p.155). If people feel as that they are in charge of performance measurement instead of it being imposed on them, they are more likely to engage in the process.
12. "Don't wait for perfect indicators" (Marr, 2008, p.155). There is no need, as long as you are aware of the limits of your indicators, and interpret them accordingly.
13. "Do encourage people to experiment with new performance indicators" (Marr, 2008, p.155). Make sure that people have the ability to question indicators and try out new ones, consider it a learning process, as this could improve the indicators.
14. "Do use the performance indicators and performance assessments to interact with people" (Marr, 2008, p.155). This refers to the interaction between organization members.
15. "Do use performance indicators to learn" (Marr, 2008, p.155). Indicators can help gain new insights, which could lead to adaptation and learning. Learning and improving should be the main focus.
16. "Do manage the tensions between the different measurement usages" (Marr, 2008, p.155). Be aware of the danger that people might shift to controlling and reporting functions, rather than the learning focus that the process starts with.
17. "Do apply common sense" (Marr, 2008, p.155). Especially try to prevent organizational routines and political pressures getting in the way. Use performance measurement to understand the world around you.

These do's and don'ts give some insights into what is important in the process of designing and implementing a performance measurement system. It does not however, make clear how a process towards such a system could develop. It is important to note here that each process is different, and that businesses or public sector organizations that aim to design and implement performance measurement are not likely to exactly follow processes as articulated by scholars. Still, each process towards performance measurement does include several phases, for example designing indicators. Hence, by discussing these processes and phases, this will give more insights as to what to look for in the analysis.

2.3.2 The process of designing performance measurement

The process of designing performance measurement systems is important because there should be a clear relationship between the indicators in a performance measurement system, and the main goals or targets in an organization. This is especially important for business, but the same holds when performance measurement is applied in the public sector. There has been a trend in performance measurement systems, where performance indicators are designed without taking into account the relations between the indicators or their specific relation to the main goals of the organization (Flapper, Fortuin and Stoop, 1996). In order to solve this, Flapper et al. (1996) argue that when designing performance indicators, a systematic method should be applied which takes into account the relations between to indicators.

This method consists of three main steps (Flapper et al., 1996, p.28):

1. "Defining Performance Indicators
2. Defining relations between Performance Indicators
3. Setting target values or ranges of values for Performance Indicators"

These three steps are expanded upon below. Flapper et al. (1996, p.28) argue that this method draws upon three intrinsic dimensions that every performance indicator has; "the type of decision that is supported by the Performance Indicator", "the aggregation level of the decision" and "the type of measurement unit in which the Performance Indicator is expressed" (Flapper et al., 1996, p.28). These three elements, the decision type, measurement unit and aggregation level are the intrinsic dimensions of indicators that have to be taken into account when designing a performance measurement system. These dimensions are explained below.

The decision type refers to strategic, tactical or operational decisions. A performance indicator generally supports one of these three types (Flapper et al., 1996). When an indicator has to say something about issues that have a large time scale, this is considered a strategic indicator. Daily activities however, are monitored with indicators that are of an operational nature. Between these opposites lie the tactical indicators, that have a time scale of weeks, or months which is more likely in

the public sector. It is important that if the goal is to have strategic performance indicators, the performance measurement system also includes tactical and operational indicators, because these help to see the bigger picture and consider both short and long term effects (Flapper et al., 1996). By explicitly stating the type of decision to which an indicator refers, it makes sure that in the end a consistent set of indicators containing all three types is established.

Regarding the level of aggregation, this is either an overall or partial level of aggregation. When an entire system is dealt with as a black box, and the performance of the entire system is the topic of interest, overall performance indicators are defined. Once the black box has to be opened, in order to examine and analyze the system in more detail, there is a shift from overall to partial performance indicators (Flapper et al., 1996). The partial level indicators allow us to trace causes for performance, which is important when the aim is to optimize work, production or policy processes. Usually, a system contains both indicators with overall and partial levels of aggregation. Overall and partial levels of aggregation does however, depend on where you are in the organization. Furthermore, the question is whether in a local authority, an overall aggregation level indicator actually exists, as local authorities act on various policy and societal dimensions.

Finally, regarding the measurement unit, this can be monetary, physical or dimensionless (Flapper et al., 1996). Monetary performance indicators indicate performance based on monetary units. Physical performance indicators show "the number of products or customer per unit of time and throughput times ... with dimensions such as units/hour, m³, or kg/m²" (Flapper et al., 1996, p.30). Performance indicators that state a percentage or ratio are considered dimensionless here. What measurement units are used depends on both the activities that are monitored and on the people that are responsible for the indicators. Depending on your core activities within an organization, the type of indicator you are interested in varies.

Now that the dimensions were expanded upon above, this section continues to expand on the three step process. Flapper et al. (1996) formulated steps for designing a performance measurement system. The first step is to define performance indicators. Flapper et al. (1996) state that the ones responsible for executing specific tasks or controlling specific activities, will be able to make a list of performance indicators that are useful to evaluate their performance with respect to these tasks and activities. In this stage, it is not yet necessary to consider relations with either other indicators, or with the main strategic goals. These are addressed in the second step. It is more common that a so-called top-down approach is employed, where indicators are not deduced from tasks and activities, but from organizational objectives. Flapper et al. (1996) define six different sub steps within the first step of defining indicators:

1. Brainstorming, in which the goal is to collect candidate performance indicators in an uncensored and unstructured manner. Participants write suggestions for indicators on cards,

which are pinned on a board. It could be helpful to provide participants with an overview of indicators.

2. Clustering, double indicators from the brainstorm are removed and names are given to potential indicators.
3. Priority setting, the relative importance of each candidate indicators is discussed and is followed by a ranking.
4. Selection, in order to focus attention, the number of indicators is to be reduced as much as possible; otherwise the focus within a system cannot be shown.
5. Definition, the indicators that remain after the selection steps are written down, and for each indicator a formula is determined by which the indicator can be calculated.
6. Measurement, after the indicators are defined and a formula for calculation is set up, a list of data that is required is set up. In this step it is also important to consider which data is already present in the organization, or where the data is to be found if this is not the case. If the data does not yet exist, it has to be determined how it can be measured. Finally, those responsible for the measurement have to be determined.

The second step is to define relations between the indicators that have been defined during the first step. Relations can be both internal and external relations, as was already explained above. Internal relations are usually already defined (implicitly) during the first step. The external relations, how the indicators is linked to the main goals, is determined also. Now, for each indicator, the three intrinsic dimensions of an indicator that were explained above should be stated. Furthermore, this step considers relations between the sets of performance indicators that were defined for different functions. For example there could be several indicators for a goal or theme, where one of the indicators is the main indicator, and the two others are sub indicators that influence the main indicator. What is important is that you need to be able to link any performance indicator to company goals, without first linking it to a main indicator. If there is no relationship between the goals and the indicator, this either needs to be included, or the indicator should be deleted (Flapper et al., 1996).

The third and final step revolved around setting target values or value ranges for each performance indicator. A performance measurement system does not only include performance indicators, but should also include target values or the value ranges, including actions that are to be taken if the values or value ranges are not within reach (Flapper et al., 1996). These actions however, are not necessarily to take action, but could also be for instance to review the indicator and the processes this indicator refers to. Targets could also be adjusted, as could indicators. Furthermore, target setting itself can be a tangible negotiation process, especially in local authorities. In local

authorities, the design of a performance measurement system will likely be done by civil servants, but the targets and ranges need to be established, or at least approved, by the local executive.

2.3.3 Potential difficulties in a process

This take on the process towards establishing a performance measurement system by Flapper et al. (1996) is the main approach for a process towards performance measurement in this theoretical framework, but it is complemented with the notion by Lohman, Fortuin and Wouters (2004) about the influence existing indicators and performance reports can have on establishing a new performance measurement system. They state that there is often no clean slate to start from when performance measurement is established. Often, you have to take into account existing performance reports and indicators that are already in place. Furthermore, Lohman et al. (2004) acknowledge that many organizations that want to either implement or update a performance measurement system, are typically dealing with five problems: " (1) a decentralized, operational reporting history; (2) deficient insight in the cohesion between metrics; (3) uncertainty about what to measure; (4) poor communication between users and producers of PI; (5) a dispersed IT infrastructure" (Lohman et al., 2004, p.269).

Regarding the decentralized operational reporting history, in any organization nowadays, there is often some reporting going on, with a focus on operational use (Lohman et al., 2004). Therefore, there are often several reports, but with inconsistencies regarding indicators, definitions, data sources and forms of presenting. Hence, there is a lot of inconsistent information available, which complicates analysis (Lohman et al., 2004). Second, there is the problem of deficient insight in the cohesion between indicators. The operational indicators in different reports cannot be analyzed in cohesion because of measure and definition difficulties, and are therefore analyzed individually instead (Lohman et al., 2004). Third, there is the uncertainty about how and what to measure. High-level indicators that can give insight into organization-broad trends are often lacking, and there is no knowledge about how to design these indicators (Lohman et al., 2004). Fourth, there is poor communication between the users of indicators and the producers. Producers are often unaware of who the users are exactly, and of the purpose of the reports. This limits the usefulness of reports. Furthermore, users sometimes do not understand why a certain report exists and do nothing at all with reports (Lohman et al., 2004). Finally, many organizations have different information systems that are in some ways linked. This causes a lack of data integrity between different reports, but it also creates overlap. Furthermore, the systems are often not designed with a reporting function in mind (Lohman et al., 2004).

These problems with existing measures and structures by Lohman et al. (2004) are also taken into account in this theoretical framework. It is likely that each of these problems could cause difficulties in designing and implementing a performance measurement system. Hence, they are all potential causes for difficulties in a process towards performance measurement. All scholars that were discussed here acknowledge that within a process towards performance measurement, there are several methods that could be employed to design a performance measurement system. One of these methods is participatory design. This method is added to this theoretical framework, because it could potentially solve some of the problems formulated by Lohman et al. (2004). An example is the problem of the poor communication between users of indicators and the producers. The method of participatory design is discussed next.

2.4 Participatory Design

The final aspect of designing and establishing a performance measurement system discussed here, is participatory design. Participatory design is not so much a single and integral design method, as it “is a high-level feature of design methods that can be implemented in a myriad of ways” (Carroll, 2006, p.3). Participatory design originated in computer design in Scandinavia in the 1970s and 1980s (Sanoff, 2006; Spinuzzi, 2005). The central notion was including workers in designing computer systems to have more influence on the usage of computer systems in the workplace (Sanoff, 2006). The idea was that by including the users of computers systems (workers) in designing them, it would be possible to develop the systems in such a way that would be most effective for the work that had to be done. Furthermore, the Scandinavian strand of participatory design rested heavily on the notion of the empowerment of the workers, giving them a central role, rather than remaining unseen in the development of new (technological) systems they would have to work with (Spinuzzi, 2005).

The central idea, including users in designing a new ‘system’, could also be implemented beyond computer systems design. For example, by including citizens in designing their physical environment, or by applying it in participatory and deliberative democracy (Sanoff, 2006). Participatory design is included in this theoretical framework, because of the general idea of including the anticipated users of a product in the designing of the product, to make sure it fits their needs and works more effectively and efficiently. By doing so, it is expected the product is more likely to be used by workers and fit the goals. Furthermore, by including users of a product or service in designing it, the product or service is also likely to hold more legitimacy and is higher valued within an organization and by users (Sanoff, 2006).

According to Gregory (2003) participatory design is a valuable and desirable tool to use for three reasons: first, participatory design helps to improve the knowledge used to build systems.

Second, participatory design enables people developing realistic expectations regarding the systems and their outcomes, as well as reduces resistance to change. Finally, participatory design increases workplace democracy as it gives the members of an organization the right and tools to participate in designing systems and taking decisions that are going to affect their work.

2.4.1 Knowledge and objectives

Central in the participatory design approach is the role of knowledge, specifically knowledge of those designing the system versus the knowledge of those working with a system (Spinuzzi, 2005). The latter, tacit knowledge is the main focus of participatory design. This focus is important because this type of knowledge often comes from low-level workers and is undervalued or invisible to the management level (Spinuzzi, 2005). However, a study by Blomberg, Suchman and Trigg (1994) demonstrated that tacit knowledge is actually vital when designing systems for workers. Therefore, participatory design focuses on tacit knowledge, using it when designing new systems (Spinuzzi, 2005). In order to do so, the value of tacit knowledge needs to be articulated as it is needed to design the new product.

When implementing the participatory design method it is important to determine the objectives of participation (Sanoff, 2006). This can be done by asking and answering the following questions, according to Sanoff (2006, p.136):

- “Who are the parties to be involved in participation?”
- What should be performed by the participation program?
- Where should the participation road lead?
- How should people be involved?
- When in the planning process is participation desired?”

By determining the objectives of the participation, it will become clear what the expectations of the participation is exactly, which in turn is important to make sure that there are no differences in expectations regarding the outcome of the participation. For example, objectives could be “to generate ideas, to identify attitudes, to disseminate information, or to review a proposal” (Sanoff, 2006, p.136). Depending on the objective, the answers to the questions formulated above and thereby the nature of participation is likely to differ. This is important because if the expectations of the participants regarding the outcomes of participation are not met, the participants are likely to be disappointed and less willing to participate in future projects, and the participants will most likely not use the system in the way it was designed (Sanoff, 2006). An element that could help the dialogue between designers and prospective users is the creation of a vision (Sanoff, 2006). By creating a vision statement and communicating this to both designers and prospective users, the eventual goal

of the process is clear, even if this is a long-term goal, and needs several steps in between to reach this. The vision can be formulated by the perspective users, but can also be formulated by the designers or an individual within the process. Eventually however, the vision should be shared by the group (Sanoff, 2006). Generally, perspective users are only willing to take part in a visioning process once there is dissatisfaction with the current situation (Sanoff, 2006).

Furthermore, the use of participatory design does hold some practical limitations, especially when it is to be used in a narrow timeframe. Spinuzzi (2005) argues that to use a participatory design research "takes an enormous amount of time, resources and institutional commitment to pull off" (p.169). With these limitations, the use of participatory design could in fact become a hazard in a process towards setting up a new product, service or system. As the use of participatory design takes up much time, according to Spinuzzi (2005) using this method in a limited timeframe, could lead to not reaching the set out goals in time. Furthermore, the institutional commitment could frustrate the process if the participants fail to participate in a serious manner (Spinuzzi, 2005). In that case, new meetings would have to be set up with other participants, delaying a process. Therefore, when using participatory design in a process operating under a limited timeframe, it is important to plan in advance when and how participatory design will be used.

2.4.2 Research design and methods

A research design based on participatory design consists of three stages which are flexible, according to Spinuzzi (2005), because participatory design is still developing. The first stage is labeled "initial exploration of work" (p.167). During this stage, the designers and users meet and the designers get acquainted with the manners of communication and working together of the users. This includes technologies, workflow and procedures, routines and any other work-related aspects. The second stage is labeled "discovery processes" (p.167). During this state, both designers and users attempt to envision the future workplace as well as making sure they understand and prioritize the work organization. User's goals and values are clarified and during this stage the fours agree on what the desired outcome of the project is. The third and final state is labeled "prototyping" (p.167). During this stage, the technological aspects are designed by users and designers together in such a way that it fits into the desired outcome of the project, as formulated in the previous stage. Usually, these stages are iterated more than once in order to reach the desired outcome.

Methods to implement the participatory design in a research design as formulated above are diverse. Gregory (2003) mentions "design-by-doing, mock-up envisionment, future circles, future workshops, organizational games, cooperative prototyping, ethnographic field research and democratic dialogue" (p.63). Hence a participatory design can be implemented by using different

methods, some of which are mentioned by Gregory (2003). The exact methodology of participatory design was somewhat questionable, mostly because participatory design in itself is research. It is a search for the best design of a product, service or policy. Still, Spinuzzi (2005) argues participatory design can be formulated as a (loose) methodology with its own methods and techniques.

He mentions various methods that could be employed in participatory design, grouping them in the three stages as formulated above. During the first stage, methods that could be employed include "observations, interviews, walkthroughs and organizational visits and examinations of artifacts" (Spinuzzi, 2005, p.167). It is generally a very interactive stage, and so are the methods employed, although most of the actual design-related interaction is to take place in the next stage. During the second stage, methods that could be employed "include organizational games, role-playing games, organizational toolkits, future workshops, storyboarding and workflow models and interpretation sessions" (Spinuzzi, 2005, p.167). These methods revolve heavily around group interaction, because the goal is to come to a joint vision of the future workplace. In this sense, Spinuzzi (2005) derives from Sanoff (2006) who states that though the vision is important, it does not have to be formulated by the users, as long as it is shared by them. Both propositions are taken into account when applying participatory design to the case of the administrative cockpit. During the final stage, the methods that could be employed include "mockups, paper prototyping, cooperative prototyping ... among many others" (Spinuzzi, 2005, p.167-168).

A final note that is important here, is that the results of the process are formulated and distributed in such a way that users can understand, so that the results are open to discussion, and leaves future collaboration and improvement open (Spinuzzi, 2005). This continues the focus on tacit knowledge and leaves the users in the centre of the process. What the methods will be employed is elaborated on in the next chapter.

2.5 Expectations for Enschede

2.5.1 The process towards performance measurement

It is somewhat difficult to set out specific expectations for the case of Enschede regarding the process towards performance measurement. The project proposal does not formulate a specific process with certain steps that will be taken. Some steps are mentioned, but no order in steps is mentioned either. Hence, the observation process here will give further insights on how the process looked, and how this has influenced the performance measurement system. However, it is expected that if the process follows the set of do's and don'ts by Marr (2008), this will have positive effects on both the process towards establishing the cockpit and on the performance measurement indicators in the cockpit. Furthermore, it is expected that if the difficulties in the process as defined by Lohman

et al. (2004) are present, these are likely to influence the process. For example by delays in the process itself, or by not being able to determine indicators. Therefore, the following hypotheses are formulated for the process towards performance measurement:

H1. If the difficulties formulated by Lohman et al. (2004) are also present in Enschede, these are likely to influence the process of setting up the administrative cockpit

H2. If the set of do's and don'ts by Marr (2008) are followed, this is likely to have positive effects on the process towards the cockpit and performance measurement indicators.

H3. If the process follows the example by Flapper et al. (1996), then it is likely that a performance measurement system will be designed and implemented within the set-out timeframe.

2.5.2 Performance measurement

It is somewhat difficult to formulate specific expectations for the case of Enschede regarding the performance measurement system. The reason for this is that the project proposal does not state how the project team aims to develop performance measurement indicators, only that they aim to include indicators that will allow monitoring the policies and strategic goals and that indicators have to be set up with information and data that is already present in the organization. Furthermore, outcome indicators are about more than effectiveness, but also deal with positive or negative side-effects of policies. This is however, not something the administration has specifically asked to add in the cockpit. Furthermore, there is not much knowledge regarding performance measurement within the organization. Considering this lack of knowledge regarding performance measurement, the difficulty to establish outcome indicators, and the fact there is no specific demand for outcome indicators from the administration, the expectation is that the administrative cockpit is not likely to contain outcome indicators. Beyond this specific expectation regarding outcome indicators, there are no specific expectations for how the performance measurement system will look like. This is also the case because the aim of this thesis is not to predict what the performance measurement system will look like, but rather how the process has affected what the performance measurement system looks like. Therefore, the following hypothesis regarding the performance measurement system is formulated.

H4. Due to the difficulty of setting up outcome performance indicators and the goal of the administrative cockpit, it is not likely that outcome indicators that also include the impact of a service and potential positive or negative side-effects are added to the cockpit.

2.5.3 Participatory Design

Expectations regarding the use of participatory design are somewhat easier. It is expected that the project cockpit team 053 will employ participatory design methods. The reason for this is that the project proposal articulated the desire for the stakeholders to provide input, for example by organizing an 'inspiration session'. Furthermore, the project proposal stated that the information that was requested by the users was to be determined. The users of the cockpit will primarily be the administration, but the cockpit and its information will also be accessible for representatives and civil servants from all policy areas. Because there is the clear goal to use the input of stakeholders and users in designing the composition and content of the cockpit, it is expected that the outcomes of the participatory design methods (what these are, is formulated in the next chapter) will be visible in the content and composition of the eventual cockpit, if possible.

However, it is also expected that if there is a lack of time, resources, institutional commitment and planning regarding how and when to use participatory design, this could frustrate the process towards setting up the cockpit. Spinuzzi (2005) discussed these practical limitations. What follows from these limitations, is that if these are indeed present in the case of Enschede, this could lead to delays in the process and in reaching the goals as set out in the project proposal. Therefore, the following hypotheses are formulated:

H5: If the project team cockpit 053 employs participatory design methods, then it is likely that the inputs coming from these methods are visible in the composition and content (the indicators) of their administrative cockpit.

H6: If there is a lack of time, resources, institutional commitment and planning of participatory design, then the use of participatory design could frustrate the process towards setting up the administrative cockpit.

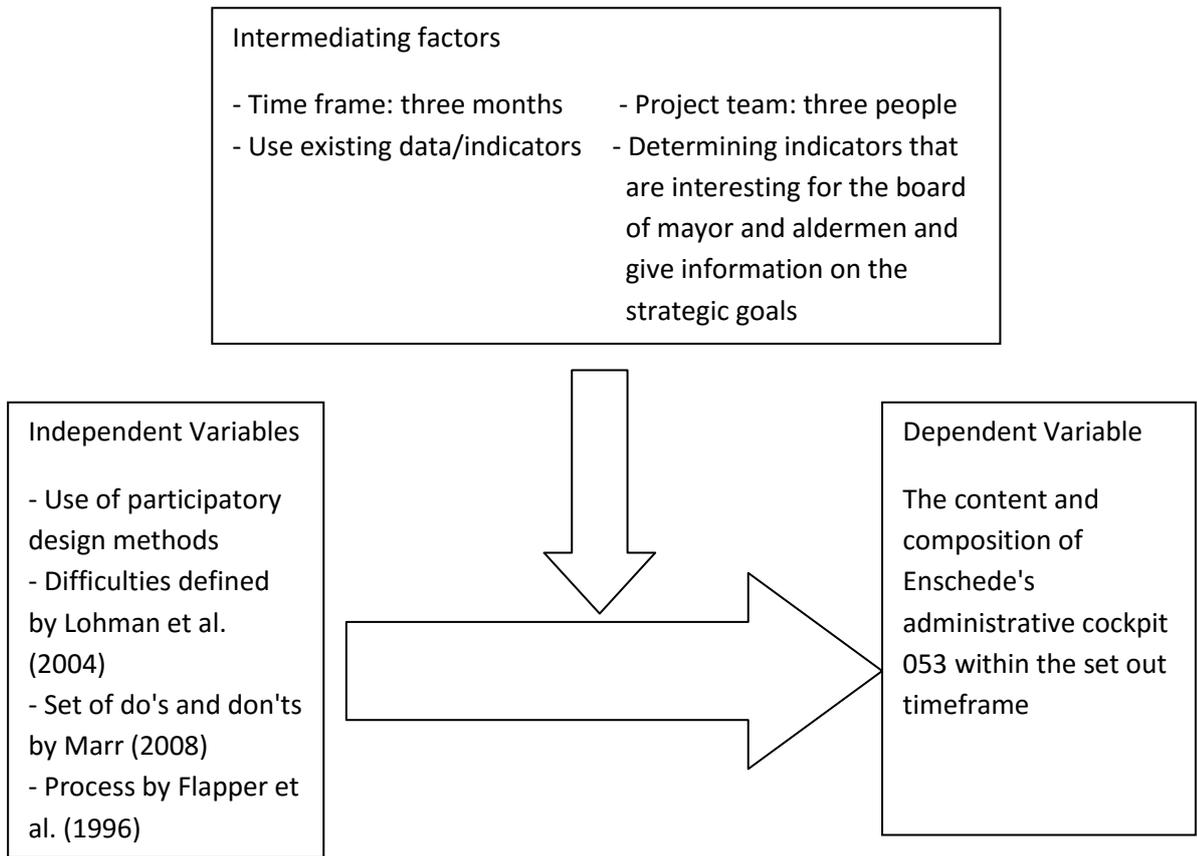


Figure 2.1 Research model

Summary

This chapter has set out the theoretical framework that is applied to the case of Enschede's administrative cockpit. It discussed theoretical insights from different scholars on performance measurement in general, the process towards performance measurement and the use of participatory design. In chapter 3 the central concepts in this framework are operationalized and the methods that are employed in this thesis are discussed.

3. Methods

This chapter discusses the methods used to gather information throughout the process of setting up the cockpit. This thesis takes the form of a case study, and employs the qualitative research methods of observation and participation in the process of setting up the administrative cockpit. First, it discusses participatory action research and observational research as the main methods that were employed. Then, it discusses how observations were made and how information was gathered. This is followed by operationalizing the variables that come from the hypotheses that were formulated in the last chapter. Finally, the use of these methods is reflected upon.

3.1 Participant observation

Participant observation has the goal of finding out through participation answers to the how and why questions of human behaviour and processes (Guest, Namey and Mitchell, 2013). It combines two different roles, the one of participant in a process, and the one of researcher, where notes and images are recorded and questions are asked. In other words, where data is collected. As this thesis takes the form of a single case study, it employs a qualitative research design, using the qualitative research method of participant observation to answer the research question. This section explores this method, starting by giving more insight participant observation, and explains how this is employed throughout the rest of this thesis. According to Gabrielian, Yang and Spice (2008), a research method can be considered qualitative if the intent and focus of the method is on interpretation and understanding, and less on explanation and prediction. This is in line with the main aim of this thesis, to understand the process towards the establishment of the cockpit, and understand how the process has influenced the eventual composition and content of the cockpit.

According to Guest et al. (2013) participant observation has three main advantages in what it can capture. First, it allows a researcher to grasp rules and norms of an unspoken nature that are taken for granted by other participants. Second, it allows a researcher to observe routine actions or social calculations. These often do not take place in a conscious manner, which means they are not likely to be discussed in interviews. Finally, it allows capturing actions and thoughts that could influence a process, but that are difficult to uncover in interviews, because they are deemed to be irrelevant (Guest et al., 2013). It is important to distinguish here between observation and participant observation. Observation, or direct observation as it is referred to by Guest et al. (2013), is a quantitative method in which the observer is counting a frequency of behavior, events or meetings. The data that is collected in this case, does not require interaction between the observer and the observed (Guest et al., 2013). Participant observation however, is a qualitative method that revolves around interaction and is thereby mostly unstructured. It is mostly linked to explanatory research,

looking for causal explanations (Guest et al., 2013). This creates data that "are often free flowing and the analysis is much more interpretive than in direct observation" (Guest et al., 2013, p.79).

Furthermore Guest et al., (2013) present a Participant Observation Continuum, which is shown in figure 3.1. This continuum shows different activities that belong to participant observation, and places them in a continuum on whether a researcher is more observational or participatory, and the visibility of the researcher role. Several of these activities were conducted in the process of setting up the cockpit as well: watching attending a meeting or event, recording images, casual conversation, acting as a co-worker, member, teammate, conducting a group discussion. All of these activities have their different places in the continuum, which means participatory observation was used in this process in various ways.

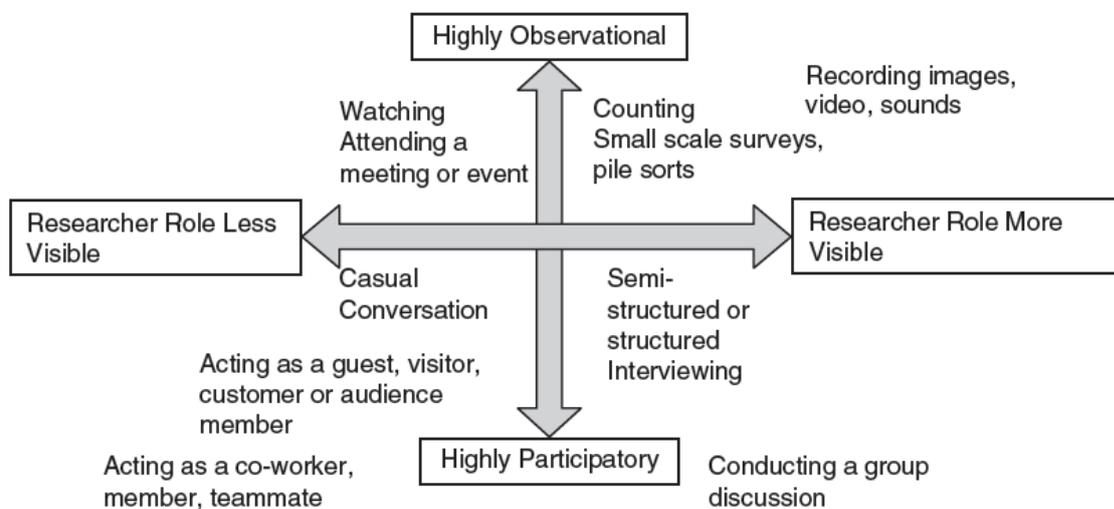


Figure3.1: Participant Observation Continuums retrieved from Guest et al., (2013, p.89)

3.2 Employing participant observation in Enschede

In order to gather data about and gain insight into the process of setting up the cockpit, participatory observation was used in different activities, as was mentioned above. First, I acted as a member of the project team cockpit 053 at the municipality of Enschede, hence as a co-worker, throughout the process of setting up the cockpit, from March-May 2016. As part of the project team, there were weekly meeting with the project team in which the status and progress of the process was discussed. I made notes during these meetings. Second, I made notes of casual conversations. At the start of the process, the project leader planned meetings with individuals within the organization who were already involved with measuring or monitoring policy. The project leader led these conversations in an unstructured manner, and I attended these meetings and took notes. Due to the unstructured nature of these meetings, they are labelled here as casual conversation, rather than semi-structured interviewing. The goal of these conversations was to require insights into what was already going on

in the organization regarding measuring and monitoring, to see whether their information and data could be used in the cockpit, and to ask what kind of indicators they would like to see in the cockpit.

Third, I watched and attended all meetings (sessions) organized with the project team to which different groups of users were invited. During these sessions I also made notes. These sessions were created with the aim to gain input regarding indicators. Fourth, during one of these sessions I conducted a group discussion with the participants, to gain feedback on indicators that were collected in previous meetings. Finally, I recorded images of the input provided by the participants in these sessions and from progress in the cockpit room in general. Because the research question of this thesis asks how the process and the use of participatory design methods (organizing sessions) influenced the actual cockpit, I observed and made notes during conversations and sessions that were an important part of the process. With all of these activities, I tried to take notes of how these activities influenced the process towards setting up the cockpit, as well as the content and composition of the cockpit itself.

Naturally, due to the relatively short time of my internship and the nature of this thesis, I had an important goal in aiming to establish the cockpit within the set-out timeframe of three months. Therefore, I did try to actively influence the planning of activities, and tries on numerous occasions to plan moments with the project leader to set up the indicators for the cockpit. An important condition during the process of setting up the cockpit was that the cockpit had to be filled with information and indicators already present in the organization. No new data could be created for the cockpit, because they believed there was already enough data present in the organization to satisfy the information demand. This meant that during several conversations and meetings, participants suggested indicators for the cockpit, for which there was no available data within the organization.

3.3 Operationalizing the variables

This section defines and operationalizes the central concepts and variables that are employed throughout this thesis. These central concepts and variables are derived from the hypotheses that were formulated in the previous chapter. By operationalizing these concepts, it becomes clear what is meant when discussing a certain phenomenon, and how this phenomenon can be seen in reality. First, some general concepts that are used throughout this thesis, but are not part of the hypotheses are defined. Then, table 3.1 provides a full overview of all variables, their concepts, indicators and operationalization.

First, this section gives an overview of central concepts that are used throughout this thesis. An administrative cockpit for the city of Enschede contains information about the state of the city, about the main strategic goals that were formulated and contains a performance measurement

system that monitors whether these goals are within reach. It is designed for the local administration of Enschede, specifically for the board of mayor and aldermen. These are the main goals the project proposal for the administrative cockpit formulated. Hence, it is argued here that an administrative cockpit is in place when this contains information about the state of the city, information about the main strategic goals and a performance measurement system is in place.

A performance measurement system is a system by which the performance of an organization can be monitored. A performance measurement system always contains various performance indicators. Between these indicators should be a relation (Flapper et al., 1996). Beyond containing various performance indicators, a performance measurement system also contains target values or target ranges, within which the performance indicators value should lie (Flapper et al., 1996). Hence, this thesis argues that a performance measurement system is in place, if there are various performance indicators in the cockpit between which a relationship exists, hence it should be clear how the indicators influence one another. Furthermore, value targets or value ranges should also be in place in order to have a performance measurement system. If these elements are included in the cockpit, then it is argued that a performance measurement system was successfully put into place.

Finally, a performance indicator is a variable or a metric designed to show whether objectives are within reach. How the indicator is expressed, depends on the goal. For example if there is a goal to produce 10 per cent more products, the indicator is a percentage. For public organizations, performance indicators tend to be linked to a larger goal that is dependent on societal influences. Different types of performance indicators can be distinguished, as was shown in the last chapters. A main type that was explored, were outcome indicators. An outcome indicator does not merely take into consideration the formal effectiveness of a policy, but goes beyond this by adding the impact of a service and potential positive or negative side-effects to the indicator (Boyne, 2002). If a performance indicator goes beyond only the effectiveness of a policy, but also takes into account the side effects of this, it is considered to be an outcome indicator. Below, the participatory design methods are defined and operationalized. Table 3.1 below provides an overview of the remaining variables, concepts, indicators and operationalization.

Table 3.1: overview of the variables, concepts, indicators and operationalization			
Variable	Concept	Indicator	Operationalization
Dependent Variable			
The content and composition of Enschede's administrative cockpit 053 within the set out timeframe.	Administrative cockpit		The administrative cockpit is in place when it contains information about the state of the city, information about the main strategic goals and a performance measurement system is in place.
Independent Variable			
Use of participatory design methods	Participatory design methods	Number of meetings with multiple prospective users of administrative cockpit	Participatory design methods are considered to have effect if the indicators provided by the participants are taken into account in the process of setting up the performance measurement system.
Difficulties defined by Lohman et al. (2004, p. 269)	Difficulties in the process of setting up a performance measurement system	"a decentralized operational reporting history"	There are several reports with inconsistencies regarding indicators, definitions, data sources and forms of presenting. Inconsistent information available.
		"deficient insight in the cohesion between metrics"	Operational indicators in different reports cannot be analyzed in cohesion because of difference in definition and measurement.
		"uncertainty about what to measure"	Lacking high-level indicators and no knowledge on how to design these.
		"poor communication between users and producers of PI"	Producers of indicators unaware of purpose.
		"a dispersed IT infrastructure"	Different information systems are in place, which causes lack of data integrity in report, overlap and systems are not designed with reporting function in mind.
Set of do's and don'ts by Marr (2008, p.153-155)	Do's and don'ts in setting up a performance measurement	"Do be clear about the functions of measurement and the way indicators are used"	The project team is clear about the functions of the performance measurement system and the indicators, there is no confusion regarding what the information is used for.
		"Don't use indicators for additional	The performance indicators are linked to the strategic

system	top-down control"	goals and outcomes, not to organizational output targets.
	"Don't tightly link indicators to incentives"	The performance indicators are not linked to organizational output, but to the strategic goals.
	"Don't just measure everything that is easy to count"	Indicators are not added because they can be measured, but because they are in some ways linked to the strategic goals, or are relevant to the state of the city.
	"Do link your indicators to your strategic objectives"	The performance indicators are linked to the strategic goals of the organization.
	"Don't let the government or regulators determine your measurement priorities"	No irrelevant indicators are added that are not linked to the strategic goals, because the board of mayor and aldermen asked for this indicator to be added.
	Do identify key performance questions before any indicators are collected	Key performance questions that establish the information needs are identified before any indicators are collected.
	"Don't measure just for the sake of measurement"	Data that is collected from the organization is also processed and used in the cockpit.
	"Don't just rely on numeric data"	Besides quantitative indicators there is also qualitative information about the context and environment available in the cockpit.
	"Do create honesty and trust"	There is honesty about what can and cannot be measured, the information in the cockpit is secure, and no one who is not meant to access information can access it. It is clear for users what the limitations of the cockpit and the data are.
	"Do create an environment in which people feel in control of measurement"	It is possible for members of the organization to give feedback about the indicators
	"Don't wait for perfect indicators"	Indicators that are not perfect are used, but their limits are clear and they are interpreted including their limits.
	"Do encourage people to experiment with new performance indicators"	Members of the organization can question indicators, suggest new ones. The cockpit and its indicators are

			viewed as a learning process.
		"Do use the performance indicators and performance assessments to interact with people"	There is interaction between the project team and the members of the organization about the cockpit.
		"Do use performance indicators to learn"	There is a focus in the cockpit of learning and improving, not just regarding the organization, but regarding the cockpit itself as well.
		"Do manage the tensions between the different measurement usages"	The cockpit is considered to be a learning process, rather than an instrument for reporting and controlling.
		"Do apply common sense"	There are no organizational routines or political pressures getting in the way of the process
Process by Flapper et al. (1996)	A six step process towards a performance measurement system	Brainstorming stage	Sessions are organized in which candidate performance indicators are collected in an uncensored and unstructured manner.
		Clustering stage	The project team members remove double indicators from the brainstorm stage, potential indicators are named.
		Priority setting stage	The project team discusses and determined the relative importance of each indicators, a ranking is created.
		Selection stage	The project team reduces the number of indicators as much as possible, to show the focus of the system.
		Definition stage	The remaining indicators are written down by the project team, and a formula is determined for each indicator by which it can be calculated.
		Measurement stage	A list of data that is required is set up. Has to be data that is already present in the organization. Those responsible for measurement are determined.

3.4 Reflection

This section reflects on the methods that are employed in this thesis, and the consequences of these methods for the validity and reliability of data and findings. As the writing of this thesis was combined with an internship at the municipality of Enschede from March-May 2016, I was very involved in the process, not only observing events and behavior, but shaping events by helping to determine their form at the same time. Hence, I was truly using participatory observation, rather than merely observation. Therefore, it is important to be aware of both my position in the process and of the potential bias this position may cause (Gabrielian et al., 2008). By not merely observing, but constantly making notes where possible, I tried to remain as objective as possible, using my notes when writing the analysis.

Regarding the validity, measuring what you need to measure, figure 2.1 presented the research model designed to answer the research question, and this was operationalized in table 3.1, to make sure that the variables in the research model can all be measured throughout the process of designing the cockpit. Regarding reliability, throughout this process, I tried to remain as objective as possible by taking notes as stated above. However, with this type of research and with the method of participant observation, there is always the risk of bias, which can never be completely avoided (Guest et al., 2013). As mentioned above, I had a personal goal of establishing the administrative cockpit within three months, as this was the period of my internship. This however, proved to be unachievable.

Furthermore, in order to gain better data it would have been preferable if I had been able to conduct structured interviews with both the project team and with members of the organization that were participants during the various meetings. This however, did not fit within the goal of the internship, to establish the cockpit, nor did it fit within the timeframe. Regardless, the data I have collected by participant observation is sufficient to provide an analysis and answer the research questions that were posed in the introduction of this thesis.

Summary

This chapter has discussed the main method of participant observation employed in this thesis and has shown how this method was employed in the case of Enschede's administrative cockpit. Furthermore, this chapter provided the definition and operationalization of the main concepts and variables used throughout this thesis. The next chapter provides background information into the case of Enschede's administrative cockpit. It discusses how the assignment to set up the cockpit was formulated and gives a description of the process, before moving on to the analysis, discussing the hypotheses.

4. Case Background: Enschede

This chapter provides some background information on the case of Enschede, before moving on to the analysis. This information is provided to give the reader some insight into the case, the process towards establishing an administrative cockpit and why this cockpit became a goal for the organization. First, some general information about Enschede is discussed in section 4.1.

Furthermore, additional context is provided regarding the policy program Economy, Work and Education and how they discovered their strategic goals. Next, the development of the assignments for the directors is discussed, since the cockpit is part of one of these assignments. Finally, section 4.2 discusses the process towards establishing the administrative cockpit 053.

4.1 General information

Enschede is a municipality of almost 158.000 inhabitants in the east of the Netherlands. It is the largest city in the province of Overijssel, and the thirteenth largest municipality in the Netherlands. The municipal organization is divided in five policy areas or policy programs: first, Economy, Work and Education, second, Social Support, third, Urban development, fourth, Living Environment and fifth, Services. Besides these programs, the organization is also supported by the concern staff and management support. Municipalities in the Netherlands have recently gained more tasks and responsibilities as a result of a process of decentralization in the Netherlands. Tasks regarding social support, youth care and participation were decentralized to municipalities in early 2015. This means municipalities have to learn about these new tasks and execute these properly with fewer budgets.

In this context, the program of Economy, Work and Education decided last year to ask the Atlas voor Gemeenten (2015) to do some additional research regarding the future and its main challenges for Enschede. Specifically, Enschede has a relatively large number of people relying on benefits that come out of the municipal budget, and a relatively low level of labour participation (CBS, 2016). However, the Atlas voor Gemeenten (2015) predicted that the labour force in total is to shrink in the following years. As a result of this, the level of labour participation could increase, as there would be the same amount of jobs available to a smaller labour force. To investigate whether the future would indeed see this process, the program of Economy, Work and Education asked the Atlas voor Gemeenten to calculate their future economic scenarios.

These economic scenarios were different from what they expected. The labour force would indeed shrink in the years to come, but as a result of this the level of labour participation would not increase, because companies will not be able to find enough workers in the area, and will therefore relocate. In the meantime, it would also not be likely that the amount of people relying on municipal benefits would go down either. Furthermore, because Enschede is located near the German border,

and there is not a lot of interaction with Germany at the moment, Enschede misses important links and does not use the opportunities the border provides. Furthermore, there is also a low level of interaction with other important economic areas in the Netherlands. Hence, the Atlas voor Gemeenten (2015) formulated three important challenges for Enschede in the years to come. First, Enschede needs to improve the connections with its surroundings. This means using the German border as an asset rather than as a disadvantage. It needs to improve contacts and connections with German companies and municipalities, so that Enschede's business can profit from this. Furthermore, physical connections between Enschede and the rest of the Netherlands over roads and train tracks also need to be improved, so Enschede will be quicker to reach and become less isolated (Gemeente Enschede, 2016a). Second, Enschede needs to improve its business climate, in order to both increase business coming to Enschede, and to keep them in Enschede. Specifically, Enschede has a large number of technological start-ups, mainly spin-offs from the technical University of Twente. These start-ups initially settle in Enschede, but move away after a few years, because it is too far away from the Netherlands' main business centres, and because they are not able to find enough qualified staff (personal communication, 2016). In order to counter this trend, not only the business climate needs to be improved, but a third challenge needs to be addressed as well. Enschede needs to attract and retain talent. Even though there are several options for higher education in Enschede, civil servants are convinced that most graduates do not stay in Enschede (personal communication, 2016). The main reason for this would be the lack of high-level jobs, although the living climate and lack of attractive starter housing could also play a part. This is the last strategic challenge for Enschede. The Atlas voor Gemeenten (2015) advised Enschede to work on these three challenges, which could eventually improve Enschede's economic position.

During this research process in the program of Economy, Work and Education, within the board of mayor and aldermen and within the board of directors another process was at play, that of setting up new tasks for the concern directors, with each of them getting one or two assignments (Gemeente Enschede, 2016b). The board of mayor and aldermen was approaching their half-way mark, and decided to formulate concern assignments for the remainder of the time they are in office. By formulating these assignments, an additional focus could be added to the government program. One of these assignments was *more work, strengthening the economy*. This assignment was directed at the program of Economy, Work and Education. Part of this assignment was to set up an administrative cockpit with information on the progress of the assignments, on the strategic challenges of the city and other important management information. Hence, setting up the cockpit was part of a larger assignment within the program of Economy, Work and Education.

At this point, there was already a cockpit in use with information and indicators for Economy and Work. This cockpit contained different indicators, such as the unemployment rate and the

applications for benefits. This cockpit was supposed to be added to the new, city-wide cockpit. The idea was that these indicators were already in place; these were however not linked to the strategic challenges. The goal of the cockpit assignment was to have a first version with performance indicators on policies, strategic challenges and the assignments up and running in late May 2016.

4.2 The process of setting up the cockpit

This section discusses the actual process from March-May 2016 towards setting up the cockpit. By discussing the process in general and the main events, it is expected that this allows discussing the hypotheses in the next section. Section 4.2.1 starts with discussing the first stage; writing the project proposal and coming up with a plan of how to design and establish the cockpit by consulting colleagues within the municipality that were already involved in monitoring or measuring policy. The second stage would be the inclusion of the actual users of the cockpit, asking the board of mayor and aldermen what they would want to see in the cockpit. The third stage would be the actual designing of the cockpit, choosing and designing the indicators with data already present in the organization. How this process actually unfolded is discussed below.

4.2.1 First stage: Project Proposal and meetings with colleagues

The actual process towards setting up the administrative cockpit in Enschede started on 1 March 2016. This is when the project team was formed and started on setting up the cockpit. The project team consisted of the program secretary of Economy, Work and Education, and administrative support civil servant and an intern. Early in the process, a project proposal was formulated by the project leader which stated that the goal was to create an administrative cockpit on a physical location that contains strategic, tactical and operational information on the state of the city and the region, as well as on the assignments formulated for the concern directors (Projectvoorstel, 2016). Furthermore, the proposal acknowledges that each program within the municipality works from its own goals and has its own indicators that are relevant to the cockpit. Since the cockpit is formulated within the Economy, Work and Education program, economy and work are the first areas added to the cockpit, followed by indicators from Social Support (Projectvoorstel, 2016; personal communication, 2016).

The project proposal states that by consulting with experts from the different programs, and thinking with them about the indicators that should be included, the administrative cockpit should contain the right indicators and is attractive to use for those experts and the board of mayor and aldermen (Projectvoorstel, 2016). Hence, both the board of mayor and aldermen and colleagues would be consulted about what information and indicators they believed should be part of the

cockpit. Important points of consideration that were mentioned in the project proposal were what to do with sensitive information? The aim is to let the cockpit have an open character but it should also contain certain information that is not supposed to be accessible by anyone. Furthermore, it is mentioned that it should be taken into account what is already going on regarding measuring and determining indicators. How to keep the information in the cockpit correct and up to date? Could we make certain colleagues already involved with measuring part of the team (Projectvoorstel, 2016)? The most important condition that was set for the administrative cockpit, which was also mentioned in the project proposal, was to work with data that was already present in the organization. (Projectvoorstel, 2016). The long-term goal of the cockpit is to develop it into a business intelligence unit.

During this stage as well, ten meetings were organized between the project leader, myself and colleagues already involved with measuring or monitoring. The idea was that on the one hand, the project team did not want to do anything that was already being done by getting an idea of what was already going on within the organization. On the other hand, this way it would perhaps be possible to use some of these developments in the cockpit. Hence the goal was both to take notice of developments on measuring and monitoring in the organization, and at the same time to see whether and how these developments could be included in the cockpit. As mentioned in the method chapter, these conversations were led by the project leader in an open and unstructured manner. These conversations started in early March, but due to scheduling conflicts also took place during the second and third stage. This section shortly discusses the developments on measuring and monitoring that were already in place, and in what way these could be combined with the cockpit. This is concluded from notes I took during these meetings.

The first important development was a dashboard on durability. This dashboard focused specifically on durability and had the goal to not only inform those inside the organization, but also those outside the organization, by showing this dashboard in public places. It was concluded that the durability dashboard and the cockpit were not likely to cover the same information and indicators. The second development was an app that included information on services provided by the municipality. This app was linked to the same indicators in other municipalities. This app and the cockpit focus on different information, but the way the information is presented, in an app, could be a possibility for the cockpit. Third, was a conversation with two colleagues from urban development who, as a part of their activities, also attempt to monitor trends and developments. This conversation was of a different nature, as they read to project proposal and gave direct feedback on the proposal and the idea of the cockpit in general. They commented on the fact that sharing information and trends between the programs is not something that is happening at the moment. Furthermore, they wondered whether the project team was not overlooking certain developments.

Fourth, a meeting with someone from social support. Social Support is currently working on monitoring new initiatives in the policy areas of the decentralizations. They were still in early stage and did not yet have a clear idea on how to collect and present their information. If they do develop this idea however, it would be a good initiative to include in the cockpit, as it shows what these new initiatives produce in financial and societal efficiency. The fifth important development is the Data Warehouse that is being designed, first for the Social Support program. On this project we had three different meetings with different people. The aim of the Data Warehouse project is to develop a database for all important data within the organization. This data could be used to discover laws and correlations, which could in turn be used when developing new policies. As this is a big project, many different people are part of this. During the first meeting, there was the idea of adding the data from the cockpit in the Data Warehouse. The project leader of the cockpit however, was not necessarily in favor of this idea. The second and third meeting gave some more insight in the Data Warehouse, what it was, what information it currently contains and how this data could be used. During these meetings it became clear that the Data Warehouse could be used as a source of data that could be processed for the cockpit. For now, this would only be data from Social Support, and not all data that is currently in the Data Warehouse is fully reliable. This idea of using the Data Warehouse as a source was more interesting to the cockpit project leader. The people from the second and third meeting also did not request information from the cockpit for the Data Warehouse. The sixth development was the professionalization of project-based work. One of the colleagues from urban development was working on this professionalization, and aimed at designing a physical project room, in which the progress of some important projects would be made visible. After this meeting, the cockpit project leader thought that the information in the project room would also become part of the cockpit. No new meetings were planned to give this shape before the end of May. Therefore, it cannot currently be said whether or not this project will become part of the cockpit. The final important development in the organization is the use of big data. Two different projects, Smart City and Proeftuin Business Intelligence are both attempting to use big data. The cockpit project leader however did not have seen added value in big data in the sense of adding it to the cockpit, apart from using it for the state of the city. Therefore, there are currently no plans to use big data in the cockpit.

This section discussed the first stage of the process towards cockpit 053. The first stage was about gathering information on what was already happening in the organization regarding measuring and monitoring, and was used to come up with a project proposal. The next section discusses the second stage of the process towards the cockpit. This stage was about consulting the users of the cockpit, to see what they want indicators they think are important, as well as other aspects they believe to be relevant.

4.2.2 Second stage: Consulting prospective users

This section discusses the second stage of the process towards setting up an administrative cockpit in Enschede. The first stage revolved around gathering information on what was already developing in Enschede regarding measuring and monitoring and designing a project proposal. The second stage was about consulting prospective users to gain input on what they would want the cockpit to look like. This section describes this second stage of the process, in which participatory design methods were employed.

The first session that was organized was with the most important group of intended users of the cockpit: the board of mayor and aldermen and the concern directors. This session was intended to get an idea of what information they would like to see in the cockpit. The question that was posed to the mayor and aldermen was: what are the five most important indicators you need to govern the city? The concern directors, each of them has one or two assignments they have to focus on for the next two years, were asked what indicators could determine the success of their assignments. By asking these questions, it was aimed to understand what type of indicators the intended users would like to see in the cockpit. The five most important indicators of the mayor and alderman were placed onto 5 boards, ranked from number 1 to 5, to create a top five indicators, and to get clear which indicators are considered most important. All participants had approximately 30 minutes to come up with indicators and place them on the boards. After the indicators were placed on the boards, a discussion was led by one of the senior policy advisors asking the board of mayor and aldermen to explain their number 1 indicator and asking the directors to explain their most important indicators.

First of all, what became clear from the output was that most of the aldermen did not really understand what was meant by indicators. Hence, much of the output was more in line with stating policy goals rather than indicators that could measure these goals. Still, by understanding the policy goals it becomes possible to determine the indicators on that policy goal. The most important subjects that made their way to the top boards were attainability of the city, of jobs and of other regions with jobs, the amount of money spent by the municipality on social support, income and unemployment and being an attractive city. Second of all, what became clear from the discussion was that within the board of mayor and aldermen, there is a preference to focus on the attainability or accessibility of the city and of jobs in the region. Hence, based on this meeting, attainability should get some central place in the first version of the cockpit, if the goal is to take the input of prospective users and designing the cockpit based on this.

Initially, this would be the only session like this to be organized, along with a brainstorm session at the end of the process with the colleagues we spoke to during the first stage to ask them for feedback and further input on indicators. This brainstorm session did take place in the end. However, after this session with the board of mayor and aldermen and the concern directors, the

project leader decided to also organize similar meetings with the management team of each program. Hence, in addition to the two meetings that were planned to gain input, there were now an additional four meetings added. These meetings could not all take place on short notice, because the management teams do not all meet at the same frequencies, and some have very full agendas. By adding these meetings it became difficult, though not impossible, to get a complete first version of the cockpit in three months. The main reason this deadline was not made is discussed in section 4.3.

As mentioned above, apart from the two sessions with prospective users that were planned, the project leader decided to plan sessions with the management team of each program, and to start with the management team of Social Support and Economy, Work and Education, as these were the two programs that would have to be included in the first version of the cockpit. For Social Support, the main question was what themes could be derived from their work to which indicators could be linked. What are their main themes and goals they want to reach, and which indicators could be linked to this? Furthermore, by asking the management teams what indicators they would like to see, it was expected this would also create support for the cockpit in general, and for the supply of information and indicators to the cockpit from each program. For Economy, Work and Education the question was slightly different. Because the project leader is situated in this program, she already had a better understanding of the major themes and goals. Therefore the main goal here was to ask whether any important themes or indicators were missing.

The meeting with the Social Support management team produced two main themes: inclusion and prevention. During this meeting the members of the management teams all wrote down indicators that fit within these themes, which gave a good model for the first version of the cockpit. Indicators such as the duration of municipal treatment programs, the number of people on waiting lists, social support spending and youth in treatment programs were mentioned during this session. At this point, it was already established that some of this data was present in the Data Warehouse, which was discussed earlier. After this session all of the indicators were written down and the double ones removed, which resulted in a good design for the Social Support part of the cockpit. The project leader however, felt that the themes mentioned by the Social Support management team were somewhat 'soft' and she was not convinced that these themes and indicators were what really mattered (personal communication, 2016).

As mentioned above, the meeting with the Economy, Work and Education management team had a somewhat different focus, because the main themes were already established during the research process last year that was described in section 4.1. The focus here was on indicators and themes that might still be missing. In the end, before this meeting the project leader came up with a way of organizing the indicators in the cockpit. Besides the themes, she wanted to organize indicators into input, output, outcome and state of the city indicators. It should be noted here that

outcome indicators here do not have the same meaning as it did in chapter 2. Here, outcome refers to indicators which policy can either partly or not influence, but that are important to the city. Examples are the unemployment rate and the economic growth. This session therefore, became more of a discussion on what indicators should belong to what category, rather than coming to many new indicators. These two sessions with the management teams took place within set out timeframe. The meetings with the other management teams were scheduled in June and July, hence after the deadline for the first version of the cockpit.

Finally, a feedback session with stakeholders was planned, originally as a final session. During this session people that were already consulted individually were invited in the cockpit, to show the progress that had been made, and to ask for further input. Specifically, to ask for what they considered to be input, output and outcome indicators from their line of work. The goal of this session was to gain some more insight into what were relevant indicators according to the people 'on the floor'. Furthermore part of the session was designed to gain further insight into the indicators that were mentioned by the board of mayor and aldermen, the directors and the management teams. The indicators that were not directly measurable were presented to the stakeholders, and they were asked what they thought about the indicators, and whether or not these could be measured. A downside of only asking them about the indicators that were not directly measurable is that no further insight could be gained about the other indicators that were brought forward during earlier sessions. This however, was because the number of indicators that were not directly measurable was 46. If all indicators were to be added to this session, it would not have been possible to fit within the given time for this session.

What happened during this session was that during the first part more new indicators were introduced and very little feedback on what was already there was given. The main reason for this was that there were very few indicators present in the cockpit at this point. The reasons for this are expanded upon in the next session. Regardless, many indicators were mentioned, some of which were new, and on the indicators that had already been mentioned during earlier sessions, the project team received some sources or names of people within the organization who should have the data.

So, during this phase initially two meetings using participatory design methods were planned however, in the end there were four that took place within the three month timeframe, and the project leader planned for another six sessions at least. Therefore, it is concluded here that these sessions were not all organized by the time the deadline for the first version of the cockpit was reached. This is not necessarily problematic for the entire process, as long as the third session, actually building the system with the indicators is already set in motion. This however, did not happen, which is expanded upon in the next section.

4.2.3 Third stage: Building the cockpit

This section discusses the third stage of the process towards setting up the cockpit. In this stage the actual cockpit was meant to be built. This means building a performance measurement system with indicators for policy and for the strategic challenges, as well as the state of the city. This stage however, was not completed into a first version of the cockpit before the deadline at the end of May 2016. This section discusses what was done in time and what was not and the consequences of this for the project in general.

Looking at the process towards a performance measurement system as described by Flapper et al. (1996), during this stage the steps of clustering, priority setting, selection, definition, measurement, defining relations between indicators and setting value ranges for each indicator should be taken and completed. The brainstorm step was part of the first two stages of this process. The way the project team aimed to shape this process, was to work on all of these steps together. The project leader chose to be involved in every step concerning the process towards the cockpit. On several occasions timeslots were planned to work on these steps. However, at the end of the process, the only step that was completed was clustering, removing the double indicators that came from the sessions, the project team did not work on the other steps.

As mentioned above, during the last stage of the process the project team planned different days and timeslots in which the cockpit and indicators would be built. During the first of these meetings, which was after the sessions with the board of mayor and aldermen and the session with the management team of Social Support, the project team worked on the indicators from social support and on the indicators from the session with mayor and aldermen, which referred to Economy, Work and Education. The clustering of the indicators for Social Support started and they were divided into the themes of Inclusion and Prevention, which came from the session with the management team. Also, the project team worked on the indicators that came from the session of mayor and aldermen that belong to Economy, Work and Education. These indicators were clustered and skipped towards the step of measurement, trying to make clear whether the data for these indicators were present and where the data was. This was a good first step taken in this stage of building the cockpit.

Next, new meetings to work on building the cockpit were planned, but the project leader was very busy with other activities at this point. In early May however, the project team had a meeting with a bureau to look at the possibilities of creating an online platform for the information in the cockpit. At the end of this meeting a new meeting was planned for late May, and the bureau asked the project team to come up with a first version of the indicators that should be in the cockpit before this meeting. The project team agreed to this and planned a complete day, a few days before the meeting with the bureau, to work on the cockpit and the indicators. During this day however, other

meetings were also planned, which meant the project team did not have the entire day to work on the indicators. Furthermore, before this day the project leader thought of a way to present the indicators, by not only using themes (the strategic challenges for Economy, Work and Education and the themes of inclusion and prevention for Social Support), but also dividing the indicators in input, output, outcome and state of the city indicators (outcome indicators here are not defined in the same way as in chapter 2. Here, outcome refers only to those outcomes the organization cannot influence). Therefore, the project leader printed several indicators which were already in use in the Economy and Work cockpit and placed these in the division of input, output, outcome and state of the city. The rest of the day was spent on other meetings. After this day, which was in late May, no new appointments were made design the performance measurement system and indicators.

At the end of the timeframe of three months, there was therefore no first complete version of the cockpit. There were some indicators added to the cockpit, most of which were already in place in the Economy and Work cockpit mentioned above. Furthermore, at this point there were also no indicators added as a result of the sessions with prospective users and others. An overview of the indicators that were added to the cockpit at the end of the timeframe is provided in table 4.1 below. It shows that most of the indicators that are currently part of the cockpit 053, were already in use as part of the cockpit Economy and Work that was already in place. Hence, these indicators moved, but were not developed for this cockpit in particular. Furthermore, of the new indicators mentioned, only one was suggested during the sessions with stakeholders, in the session with the management team Social Support. What has to be concluded therefore is that at the end of May no significant results were reached regarding establishing a first complete version of the cockpit, at least regarding setting up a performance measurement system with indicators for the state of the city, policy and the strategic challenges.

What was essential to the process was that the number of sessions with prospective users and others expanded during the process towards setting up the cockpit. The project team chose to keep adding new sessions with new groups of people, even doing so during the last week of the three month timeframe sessions were planned with people from Economy, Work and Education separately, after already having done a session with the Economy, Work and Education management team. In a way, the project team therefore never moved beyond the brainstorm stage, into the actual building stage. At the end of the process the cockpit was still in the brainstorm and the collecting stage, rather than a building or improving stage. This means the deadline of setting up a complete first version of the cockpit was missed. The next chapter sets out what I argue were the main reasons for this.

Table 4.1: Content of the cockpit at the end of May 2016

Indicator	New or existing	Where is it placed	What value does it have, how does it link to the themes?
Development of the number of jobs with a low occupational level	Existing as part of the Economy/Work cockpit	State of the city	
Development of the number of jobs with an average occupational level	Existing as part of the Economy/Work cockpit	State of the city	
Development of the number of jobs with a high occupational level	Existing as part of the Economy/Work cockpit	State of the city	
Social assistance spending development	Existing as part of the Economy/Work cockpit	State of the city	Indicator includes a prognosis of the amount of social assistance spending and the actual amount. Links to the budget
Amount of social assistance development	Existing as part of the Economy/Work cockpit	State of the city	Indicator includes a prognosis of the number of people receiving social assistance and the actual amount. Links to the budget
Development of the Labour force in Enschede and the 50 largest municipalities	Existing as part of the Economy/Work cockpit	State of the city	
Number of students living in Enschede as part of Enschede's population	New, suggested in session with board of mayor and aldermen	State of the city	
Percentage of highly educated population	New	State of the city	Belongs to state of the city, but is linked to theme of holding on to talent
Development of the labour participation in Enschede and the average of the Netherlands	Existing as part of the Economy/Work cockpit	State of the city	
Gross municipal product	New	State of the city	
Unemployment percentage, the Netherlands, Twente and Enschede	Existing as part of the Economy/Work cockpit	State of the city	
Attainability of jobs	Existing as part of the Economy/Work cockpit	State of the city	
Development number of jobs	Existing as part of the Economy/Work cockpit	State of the city	

	cockpit		
Development number of offices	Existing as part of the Economy/Work cockpit	State of the city	
Jobs in Enschede	Existing as part of the Economy/Work cockpit	Outcome, Economic development	
Labour participation in Enschede, goal and realization	Existing as part of the Economy/Work cockpit	Outcome, Economic development	
Percentage of people with basic qualification	New, suggested in session with Social Support management team	Outcome, Inclusion	
Prognosis development labour force in the Netherlands, Twente, Enschede, 50 largest municipalities	Existing as part of the Economy/Work cockpit	Outcome, Economic development	
Prognosis development attainability of jobs	Existing as part of the Economy/Work cockpit	Outcome, Economic development	
Development inflow and outflow social assistance 2016-2016	Existing as part of the Economy/Work cockpit	Output	

Summary

This chapter has set out the process towards setting up the administrative cockpit. It did so by discussing the three stages in this process; consulting colleagues, using participatory design methods in sessions with the board of mayor and aldermen and other stakeholders and finally the stage of actually building the cockpit. It described how the process developed, which ended up in not delivering a first version of the cockpit in time. The next chapter, the analysis, attempts to analyze why this was the case from my point of view as a participant observer in the process and also discusses the hypotheses that were formulated at the end of the theoretical framework.

5. Analysis

This chapter discusses the hypotheses that were formulated at the end of the Theoretical Framework, and attempts to confirm or reject these for the case of the administrative cockpit in Enschede. It does so in the same order as the hypotheses were formulated in section 2.5. The first thing that is noted here, is that the writing of this thesis was combined with an internship and at the end of this internship, the goal of having set up a first version of the cockpit with performance indicators on policy, the state of the city and the strategic challenges as set out in the project proposal (2016) was not reached. This means that aside from discussing the hypotheses that were formulated, this chapter also discusses what the reasons for this were.

5.1 The process towards performance measurement

As formulated in the theoretical framework, the hypotheses derived from the literature on the process towards performance measurement are:

H1. If the difficulties formulated by Lohman et al. (2004) are also present in Enschede, these are likely to influence the process of setting up the administrative cockpit

H2. If the set of do's and don'ts by Marr (2008) are followed, this is likely to have positive effects on the process towards the cockpit and performance measurement indicators.

H3. If the process follows the example by Flapper et al. (1996), then it is likely that a performance measurement system will be designed and implemented within the set-out timeframe.

As was mentioned in the previous chapter, at the end of the three month timeframe there was no complete first version of the cockpit in place. Therefore, some of these hypotheses may not be confirmed, nor rejected. This section discusses each hypothesis on the process in turn, before moving on to discuss the hypotheses on performance measurement and participatory design.

5.1.1 difficulties in the process

The first hypothesis states that if the difficulties formulated by Lohman et al. (2004) are also present in Enschede, it is likely that these difficulties will influence the process of setting up the administrative cockpit. It is stated here that these difficulties are likely to influence the process of setting up the cockpit and not the content of the cockpit, because these difficulties can be overcome (Lohman et al., 2004). Still, if these difficulties are present they are likely to influence the process towards the cockpit, as these difficulties are not necessarily overcome overnight. The difficulties formulated by Lohman et al. (2004) are: a decentralized operational reporting history, deficient insight in the cohesion between indicators, uncertainty about how and what to measure, poor communication between the users of indicators and the producers and different information systems that are somehow linked within the same organization. Each difficulty is discussed in turn below.

The first difficulty formulated by Lohman et al. (2004) is a decentralized operational reporting history. This difficulty refers to the fact that in most organizations some form of reporting is going on, but this is done at an operational level and used for operational purposes. This leads to several reports with inconsistencies in definitions, data, indicators and forms of presenting, which complicate analysis (Lohman et al., 2004). This difficulty is definitely one that is present in the organization of the municipality of Enschede. This difficulty was also present during the process of setting up the cockpit. The project team wanted to add information to the cockpit about the municipality's Social Assistance, specifically regarding the inflow and outflow. The results of the Deltaplan, an investment designed to improve the outflow numbers, would have to be measured and put into the cockpit. The project team worked on the two action lines that were already set up and working. It turned out that on both of these action lines, there was trouble with measuring, in the sense that what was being measured did not provide information on whether the goals in the Deltaplan were within reach or not. Hence, there was a lot of operational reporting going on regarding these policies that was not linked to the goals in the Deltaplan.

The second difficulty formulated by Lohman et al. (2004) is the problem of deficient insight in the cohesion between indicators. Specifically, operational indicators in different reports cannot be analyzed in cohesion because they are defined and measured in a different way. It is slightly more difficult to see this difficulty in Enschede, because the project leader was the one who was using the different reports. Still, what became clear from working on the Deltaplan, is that for one certain policy, containing different reports, these could not be analyzed cohesively because of the way that indicators were defined and measured. Therefore, it is concluded here that this is a difficulty present in the organization. In fact, for the getting the Deltaplan measured and in the cockpit, this process and the difficulties with measuring slowed the process down. In the end, the results of the Deltaplan were not part of the cockpit in late May, because colleagues were still working on getting the final action line measurable. Regarding the second action line, this was measured and done, but with limitations because of the labels put on actions by the operational level. Therefore, it is concluded here that this difficulty is present in the organization.

The third difficulty Lohman et al. (2005) define is the uncertainty about how and what to measure. There are often no high-level indicators in place, and there is uncertainty in how to design these indicators. This difficulty is definitely present in Enschede, and has influenced the process towards setting up the cockpit. First, is the uncertainty about what to measure. I argue that this uncertainty grew for the project team as the process continued. This showed in the fact that they kept adding meetings with colleagues and management teams to gain input on what indicators should be part of the cockpit. This indicates they kept adding meetings because of uncertainty whether the indicators at that point were the right ones and would paint a complete picture. Second,

is the uncertainty about how to measure. For the program of Economy, Work and Education, the project leader has her own clear ideas on how to measure certain indicators. So, for this program the uncertainty is not a difficulty at play. For the other programs however, this is not the case. The project leader attempted throughout the process to involve colleagues from other programs who could solve this problem for their own program. She succeeded in this for the program Social Support..

The fourth difficulty formulated by Lohman et al. (2004) is the poor communication between users and producers of indicators. This is a problem that is not at play (yet) in the organization, because there is not yet a complete first version of the cockpit in place. It could however, become a problem. The project leader aims to show indicators without much added context on how to interpret these, because she feels that too much text will scare people off. She states that she will provide this context whenever the board of mayor and aldermen will visit the cockpit. The cockpit however, is not only open to the board of mayor and aldermen, but to other colleagues as well and the project leader will not always be present in the cockpit room. Therefore, by not providing written context users can see, this is likely to result in the difficulty of poor communication between users and producers of indicators Lohmant et al. (2004) refer to.

The final difficulty Lohman et al. (2004) define, is that organizations use various information systems that are linked in some ways, which causes a lack of data integrity. This is also a difficulty present in this organization. Specifically, this showed in the meetings where the possibility of using Social Support's Data Warehouse as a base for indicators in the cockpit was discussed. It was made clear that at this point, because information comes from different systems is not all reliable and measured in the same way. This means that for Social Support, it will take more time to gain reliable data and indicators to add to the cockpit.

So, regarding the hypothesis stating *H1. If the difficulties formulated by Lohman et al. (2004) are also present in Enschede, these are likely to influence the process of setting up the administrative cockpit* it is concluded here that is hypothesis is confirmed for the case of Enschede and their administrative cockpit. All of the difficulties are in some ways present in the organization. This meant that most of all, it delayed the process of setting up the cockpit and some of these difficulties were reasons for the cockpit not being established in its first version before the deadline. Partly because the project team was not sure about what and how to measure after the three months, but also because reliable data was sometimes lacking and because some data, such as the Deltaplan, took more time or could only be analyzed with limitations. Therefore, this hypothesis is confirmed.

5.1.2 do's and don'ts by Marr

The second hypothesis that was formulated based on literature regarding the process towards performance measurement, refers to the set of do's and don'ts formulated by Marr (2008). Below, each of these is discussed regarding whether the project team followed this advice and what the consequences of this were. It is noted first however, that because there was no first version with indicators of the cockpit established at the end of my internship, some of the analysis on these do's and don'ts are still inconclusive.

First, "do be clear about the functions of measurement and the way indicators are used" (Marr, 2008, p.153). Make sure to provide clarity regarding the indicator's functions and their purposes. This way, they will not create confusion about what the information is used for. Regarding this do, the project team followed this. It was made clear throughout this process what the intentions of the cockpit and the indicators were, to inform the local administration about the organization, the state of the city and the strategic challenges.

Second, "don't use indicators for additional top-down control" (Marr, 2008, p.153). This will promote the performance paradox phenomenon (Van Thiel and Leeuw, 2002) as was explained in the introduction. The conclusion on this don't is inconclusive. The reason for this is that even though it was not the intention of the project team to set up the cockpit as an instrument for additional top-down control, since there is currently no first version of the cockpit established, it cannot be concluded that it will actually be used in this way by the local administration. Having stated this, it is likely that the local administration will follow this don't and not use the cockpit as an instrument of additional top-down control, considering the indicators they requested to be part of the cockpit, which did not refer to actual civil servant or program performance.

Third, "don't tightly link indicators to incentives" (Marr, 2008, p.153). This is a mechanism that will also promote the arising of a performance paradox (Van Thiel and Leeuw, 2002) as people will be more inclined to cheat. From the project proposal, the concern assignments and the process in general, I conclude that this don't was followed. However, the ideal of the cockpit is to develop it into a business intelligence unit. With this information, it is more likely that indicators could at some point be linked to incentives. This however, is an unlikely situation and will depend on the political state more than the state of the organization in Enschede.

Fourth, "don't just measure everything that is easy to count" (Marr, 2008, p.154). This problem was described earlier. When you measure what is easily counted, you often do not measure what matters. The conclusion on this is slightly more difficult. There is definitely the ambition to measure those things that are not easy to count, but at the end of the timeframe for setting up the cockpit, the project team had not succeeded in achieving this. The indicators that are currently part

of the cockpit (shown in table 4.1) are examples of measuring what is easy to count, and measuring what is already there.

Fifth, "do link your indicators to your strategic objectives" (Marr, 2008, p.154). If this is done, it ensures that the indicators are a source of the most important information for an organization. As stated earlier, this is definitely an intention of the project team, though it is not yet the case. With the state the cockpit is currently in however, this is not yet reached. But an important part of this process was to identify the strategic challenges and objectives for other programs. Although even for the program of Economy, Work and Education, these were more strategic challenges rather than being objectives

Sixth, "don't let the government or regulators determine your measurement priorities" (Marr, 2008, p.154). This will often mean adding irrelevant indicators, clouding what really matters. Only add what is part of your strategy. This is a tricky don't, because the cockpit is designed for the local government of Enschede, and part of the strategy is to put the information in that they want to have, hence measure what they want to measure. Therefore, this don't is not followed for the administrative cockpit. Seventh, do identify key performance questions before any indicators are collected (Marr, 2008). These key performance questions have to establish the information needs. This do was not followed. There were no key performance questions formulated by the project team before indicators were collected.

Eight, "don't measure just for the sake of measurement" (Marr, 2008, p.154). Make sure that the data that is collected is processed and used. Otherwise people will start to resent it. This is also a difficult don't. Basically, the entire cockpit is to measure for the strategic challenges, but it is not a given that the information in the cockpit will be used in such a way that policies will be adapted if they do not provide the expected results, in which case there would be measuring just for the sake of measuring. Therefore, at this point this leads to this don't being inconclusive, because so far, the data that is collected has not yet been processed and used into indicators, but it is the intention of the project team to do so.

Ninth, "don't just rely on numeric data" (Marr, 2008, p.154). As was stated in the theoretical framework, quantitative data alone is often not enough, as there is interaction going on, information about the context and environment is needed as well. As is discussed below, the project leader has clear ideas about providing context and environment to the cockpit and the indicators, wanting to do so orally whenever she is present in the cockpit room. This however, has the risk of there not being any information on the context and environment available whenever she is not in the cockpit room and colleagues come to have a look. This means that this don't is likely not to be followed most of the time, except when the board of mayor and aldermen comes over, in which case the project leader will be present to provide context and environment. Qualitative data will not however, have a

place in the cockpit in the first version, in a later digital version this may be different. So far, it is concluded therefore, that this don't formulated by Marr (2008) will not be followed

Tenth, "do create honesty and trust" (Marr, 2008, p.154). What is especially important to be open about, is the limitations of performance measurement (Marr, 2008). During the three month timeframe, the limitations of performance measurement and indicators were discussed within the project team, but these were not communicated during meetings with colleagues or with the local administration. Therefore, the result on this do is inconclusive so far, as this may be something that will happen later on in the process, when indicators are actually established.

Eleventh, "do create an environment in which people feel in control of measurement" (Marr, 2008, p.155). If people feel that they are in charge of performance measurement instead of it being imposed on them, they are more likely to engage in the process. This do was followed in the process. By organizing many different meetings in which colleagues could participate, an open environment was created in which they could suggest indicators, but also provide feedback or criticism on this. An example is the last brainstorm session that took place within the three month timeframe, which was discussed in chapter 4.

Twelfth, "Don't wait for perfect indicators" (Marr, 2008, p.155). There is no need, as long as you are aware of the limits of your indicators, and interpret them accordingly. This don't was not followed. Throughout the course of the process towards setting up the cockpit, on several occasions and by different people it was suggested to the project leader to start adding indicators to the cockpit, even if these indicators would not yet be perfect. The project leader ended up not adding many new indicators to the cockpit during the three month timeframe. The indicators that were already in the Economy and Work cockpit were added to the administrative cockpit.

Thirteenth, "do encourage people to experiment with new performance indicators" (Marr, 2008, p.155). Make sure that people have the ability to question indicators and try out new ones, consider it a learning process, as this could improve the indicators. This do was followed. The project team was open to suggestions on measuring and indicators from other people in the organization, or even people from outside the organization. This also shows from the many meetings with colleagues that were organized throughout the three month process.

Fourteenth, "do use the performance indicators and performance assessments to interact with people" (Marr, 2008, p.155). This refers to the interaction between organization members. This do was followed by the project team. The process towards the cockpit led to many different individual and group meetings in which performance indicators were discussed. Fifteenth, "do use performance indicators to learn" (Marr, 2008, p.155). Indicators can help gain new insights, which could lead to adaptation and learning. Learning and improving should be the main focus. The result

of this do is inconclusive. As there was no first version of the cockpit in place at the end of the three month timeframe, it cannot be concluded whether these are used to learn and improve.

Sixteenth, "do manage the tensions between the different measurement usages" (Marr, 2008, p.155). Be aware of the danger that people might shift to controlling and reporting functions, rather than the learning focus that the process starts with. This do was not followed. The project team was not prepared for this tension, which was present in the organization as is discussed above, and was not able to handle it in such a way that led to designing and using performance indicators. Finally, "do apply common sense" (Marr, 2008, p.155). Especially try to prevent organizational routines and political pressures getting in the way. Use performance measurement to understand the world around you. It is argued here that common sense was used during the process which can be concluded from the background chapter, although the task of setting up a first version with indicators of the cockpit in three months proved to be too large of a task.

Therefore, regarding the second hypothesis that was formulated based on literature regarding the process towards performance measurement which stated *H2. If the set of do's and don'ts by Marr (2008) are followed, this is likely to have positive effects on the process towards the cockpit and performance measurement indicators* it is concluded here that this hypothesis cannot be confirmed nor rejected for the case of Enschede's administrative cockpit, because there is not yet a first version of the cockpit with performance measurement indicators in place. What has become clear is that not all of the do's and don'ts by Marr (2008) were followed. The result was about fifty-fifty and the result on a few of them was inconclusive given the status of the cockpit and the indicators at the end of the three month timeframe. Furthermore, this hypothesis can only be confirmed or rejected once there is a first version of the cockpit.

5.1.3 the process

The third and final hypothesis that was formulated based on literature regarding the process towards performance measurement, refers to the process towards performance measurement as was set out by Flapper et al. (1996). Because there was no first complete version of the cockpit established at the end of the three month timeframe, this means that clearly some of the steps in the process were not taken. The process towards performance measurement as seen by Flapper et al. (1996), distinguishes the following steps: "Defining Performance Indicators, Defining relations between Performance Indicators and setting target values or ranges of values for Performance Indicators (Flapper et al., 1996, p.28). Furthermore, the first step of defining performance indicators consists of six different sub steps, brainstorming, clustering, priority setting, selection, definition and measurement. This

section discusses these steps, although most of these steps were not taken during the three months that were set out to establish the cockpit.

During the process towards establishing a first version of the cockpit, the project team started on the first step, defining performance indicators. As was stated above, this step consists of six different sub steps, the first being brainstorming. This step was not finished yet at the end of the three month timeframe, because the project team kept adding meetings to collect more candidate performance indicators. This step was taken in the same way as described by Flapper et al., (1996), by letting participants write suggestions for indicators on cards, which are pinned on a board. Furthermore, in later meetings the project team also presented an overview of indicators that were already mentioned during earlier meetings. The project team did not however, finish this step. As argued above, the reason for this was the uncertainty about whether the indicators that were collected were the right ones and painted a complete picture.

During the three month timeframe, the project team partly started on the second step Clustering. In this step double indicators from the brainstorm are removed. Furthermore, the potential indicators are named. Essentially, only the double indicators that came from the meetings for the program of Social Support were removed, and the same was done for the indicators that linked to the program of Economy, Work and Education. Further steps were not taken for new indicators. There were however, indicators in the cockpit at the end of the three month timeframe, which are listed in table 4.1. Most of these indicators however, were copied from the cockpit on Economy and Work which the project leader set up earlier and it is therefore not clear whether setting up these indicators followed the process as set out by Flapper et al. (1996). The new indicators that were added did not follow the steps in the process as they were set out by Flapper et al., (1996).

Because most of the steps in the process towards performance measurement as formulated by Flapper et al. (1996) were not followed, regarding the hypothesis *H3. If the process follows the example by Flapper et al. (1996), then it is likely that a performance measurement system will be designed and implemented within the set-out timeframe* it is concluded here that this hypothesis is rejected for the case of Enschede's administrative cockpit, because there was no performance measurement system set up in the set-out three month timeframe. Furthermore, I argue that although following these steps is likely to lead to a performance measurement system, if the difficulties as formulated by Lohman et al. (2004) are present, then it is not necessarily the case that following the steps by Flapper et al. (1996) will lead to a performance measurement system within the set-out time frame, because these difficulties are likely to frustrate and delay this process in general as well as the steps as formulated by Flapper et al. (1996).

5.2 Performance measurement

As formulated in the theoretical framework, the hypothesis derived from the literature on performance measurement is:

H4. Due to the difficulty of setting up outcome performance indicators and the goal of the administrative cockpit, it is not likely that outcome indicators that also include the impact of a service and potential positive or negative side-effects are added to the cockpit.

First of all, what needs to be noted here is that as stated above, at the end of the three month timeframe there was no complete first version of the cockpit in place. There were however some indicators already added, most of these were already added to a similar cockpit for Economy and Work.

The theoretical framework discussed the difficulty of adding outcome indicators to any performance measurement systems in the public sector. As many policies depend on external factors, indicators often cannot show the full picture of a policy's performance, especially if these indicators exclude environmental influences (Marr, 2008). The cockpit's project leader did try to include what she considers to be outcome indicators to the cockpit. She however, did not see outcome indicators in the same way as Marr (2008) does. In the cockpit, an outcome indicator is defined as something that is important for the municipality, but that cannot be directly influenced by policy. For instance, indicators that are considered outcome indicators in the cockpit are the amount of jobs in Enschede, or a prognosis of the development of the labor force. For Marr (2008) however, this would not be considered outcome indicators. Marr (2008) states that outcome indicators are indicators for policies that take into account how this policy is influenced by and influences external factors. Hence, the project leader and scholars use different definitions of what an outcome indicator is. Therefore, even though there are a some indicators added to the cockpit which are labeled outcome indicators by the project leader, it has to be concluded here that there are no outcome indicators added to the cockpit in the way there were defined by Marr (2008).

The hypothesis states that the reason for not adding outcome indicators to the cockpit, in the way that they were defined by Marr (2008), is because of the difficulty to set up these indicators that take into account positive or negative side-effects of policies and because of the goal of the administrative cockpit. I argue that especially the first element, the difficulty of setting up outcome indicators was a main reason for not setting up these indicators. The project leader had some experience with setting up a cockpit for Economy and Work, but there was no real experience within the project team with setting up indicators from different data. Therefore, it is argued that the fact that within the project team there was no extensive knowledge on how to set up outcome indicators that take into account positive and negative side-effects of policy, is a main reason that this was not done. Furthermore it was important that indicators that were set up could be managed and renewed

by the project leader, as the project team was dissolved after the three month timeframe, leaving the project leader in charge of the cockpit and the indicators.

The second element the hypothesis states, is that outcome indicators as defined by Marr (2008) are not likely to be added to the administrative cockpit because of its goals. The goal of the administrative cockpit is to inform the local administration about the results of policy in line with the strategic challenges for the city. The eventual goal is to develop it into a business intelligence unit. Hence, the goals of the cockpit are more aligned with a cockpit in the private sector, rather than the public sector. Marr (2008) states that a performance measurement system in the public sector is often more difficult than in the private sector, because the public sector will aim to include positive and negative side-effects to policy and environmental factors as well. The cockpit for Enschede however, appears to have more interfaces with a performance measurement system in the private sector, that is more concerned with whether the input is making sure that set-out goals are reached. An important reason for the latter is the fact that the director of Economy, Work and Education has a history of working in the private sector and has a very clear vision and belief that the public sector should work more like the private sector (personal communication, 2016). Therefore, when the assignment of the cockpit was shaped by the director, the private sector elements of a performance measurement system gained the upper hand over public sector elements such as positive and negative side-effects of policies on society. Hence, the public sector elements of a performance measurement system are not visible in the cockpit in its current shape and form.

So, regarding the hypothesis that was derived from performance measurement literature:
H4. Due to the difficulty of setting up outcome performance indicators and the goal of the administrative cockpit, it is not likely that outcome indicators that also include the impact of a service and potential positive or negative side-effects are added to the cockpit it has to be concluded here that the hypothesis cannot be confirmed nor rejected, because there is no first version with a complete set of indicators in place in the current cockpit. However, it is argued here that it is likely that this hypothesis can be confirmed when there is a first version of the cockpit in place. This would be the case because of the difficulty of setting up outcome indicators, as they are defined by Marr (2008) for the project leader and the project team who have no experience in doing so in this manner and because the goal of the cockpit is more comparable to a private sector performance measurement system. In this type, outcome indicators generally do not play a significant part. The reason for this can be traced back to the Economy, Work and Education director who defined and shaped the assignment of the cockpit, and believes that the (local) public sector should work more like the private sector, preferring this work mode. Because of this however, important elements of a public sector performance measurement system are likely to be overlooked in the cockpit.

5.3 Participatory design

This section discusses the hypotheses that were derived from literature on participatory design for the case of Enschede, which stated *H5: If the project team cockpit 053 employs participatory design methods, then it is likely that the input coming from these methods are visible in the composition and content (the indicators) of their administrative cockpit.*

H6. If there is a lack of time, resources, institutional commitment and planning of participatory design, then the use of participatory design could frustrate the process towards setting up the administrative cockpit. These hypotheses are once again discussed in turn in this section followed by a section that reflects on this analysis.

Regarding the first hypothesis that states that if participatory design is employed in the process towards setting up the cockpit, that it is likely that the input from this will be visible in the composition and the content of the administrative cockpit, it first has to be stated that because there is currently not yet a first version of the cockpit in place, the result on this hypothesis is inconclusive. What can be said at this point is that the input from the working, inspiration and brainstorm session are likely to be reflected in the content of the cockpit. The reason for this, is that at least for the program of Social Support, the input from the session with the management team of Social Support has been sent through colleagues from Social Support that work with the Data Warehouse and could potentially get the data for these indicators. Therefore, it is argued here that where possible, it is likely that the input from these sessions will be reflected in the cockpit, which also shows from the fact that at the end of the original timeframe, the project leader kept adding meetings with various groups in the organization to gain further input and feedback.

The second hypothesis that was derived from literature on participatory design, states that the use of a participatory design could in fact frustrate the process towards setting up the administrative cockpit, if there is a lack of time, resources, institutional commitment and planning regarding participatory design. This section discusses each of these elements in turn, before presenting its conclusions on this second hypothesis.

The first element that could frustrate the process towards setting up the cockpit in combination with participatory design is the lack of time. This element frustrated the process of setting up the cockpit, but was not the only element to do so. Three months is not very long, but was sufficient in the project proposal and with the original plan of having two participatory design meetings. One meeting with the board of mayor and aldermen and the concern directors, the main target group of the cockpit, and one meeting with colleagues from different programs. The combination of these two meetings with setting up a cockpit including indicators would have been tight but sufficient. Still, when the project team decided to add more of these sessions and did not

build the cockpit and the indicators during this stage of the process, this meant that the timeframe became more unrealistic.

The second element is a lack of resources that could frustrate the process if participatory design is employed. The project team had three members, the project leader, who had previously on her own set up the cockpit for Economy and Work, another colleague that focused on administrative support and me as an intern. There was a lack of resources in the way that there was a lack of experience working in a project team and with setting up a performance measurement system. The project team was unsure which indicators to add to the cockpit and how to measure these, which is the reason that participatory design meetings kept being added to gain further input and feedback on indicators and the reason that during the process the project team did not sufficiently work on the indicators and the content of the cockpit.

The third element is institutional commitment. If there is a lack of institutional commitment for participatory design methods and for the goal, the cockpit, for which these methods are employed, this is likely to frustrate the process towards the cockpit. There was institutional commitment to employ participatory design methods and to set up the administrative cockpit. Setting up the cockpit was part of the concern assignments and therefore had the full support of the concern director. Furthermore, from meetings with colleagues, they also supported the idea of the cockpit and the inclusion of the organization in the process. There were some worries on whether the project would be successful considering the large task of keeping the cockpit and the indicators up to date, but in general there was institutional commitment to establish the cockpit and also to cooperate with the project team where this was requested.

The final aspect that could frustrate the process in combination with participatory design methods is planning. Initially, planning was not an element that frustrated the process. In the original plan where there was a three month timeframe with two participatory design meetings; planning was not an obstacle to the process. This changed however, when the project team decided to add additional participatory design meetings, at least four, without adjusting the planning and without working on the indicators for the cockpit in the meantime. It was already stated that these meetings kept being added, because there was uncertainty about what indicators to put into the cockpit and how to measure the indicators that were mentioned during the first meeting with the board of mayor and aldermen. In not adjusting the planning after adding the new meetings, hence not working on the indicators or communicating a new planning, this did become an obstacle and the main reason why there was not first version of the cockpit after the three month timeframe.

Hence, regarding *H6. If there is a lack of time, resources, institutional commitment and planning of participatory design, then the use of participatory design could frustrate the process towards setting up the administrative cockpit* it is concluded here that this hypothesis is confirmed

for the case of Enschede's administrative cockpit. Especially the changed planning caused a lack of time, and in some ways there was a lack of resources on how to set up indicators and on which indicators to add. Institutional commitment was not an obstacle in this process, but three of the four elements that are mentioned in the hypothesis did frustrate the process towards setting up the cockpit.

Summary

This chapter discussed the hypotheses that were formulated at the end of the theoretical chapter and, where possible, rejected or confirmed these for the case of Enschede's administrative cockpit. What became clear is that some of these hypotheses could not be confirmed or rejected for the case of Enschede's administrative cockpit, because at the end of my internship, there was no first version of the cockpit in place. Throughout my internship I did make clear what I needed in order to write my thesis and therefore this chapter did not only state that there was no first version, but also discussed why I believe this was not the case. The next and final chapter discusses the main research question and the sub questions that were posed in the introduction.

6. Conclusion

This thesis discussed the process of setting up an administrative cockpit with information about the state of the city, the strategic challenges and a performance measurement system. The goal was to set up a first version in three months that could eventually be developed into a business intelligence unit. I combined the writing of this thesis with an internship. From March-May 2016 I worked as part of the project team to design and set up the cockpit, using the qualitative method of participant observation as the main research method for this thesis. Participant observation combined the role of participant in a process, working as part of the project team, and the role of researcher, where notes and images are recorded and questions are asked. This thesis took the form of a single case study, focusing on the process towards setting up Enschede's administrative cockpit.

Towards the end of my internship it became clear that there would not be a first version of the cockpit in place within the three month time-frame that was set out. Therefore, this thesis also attempted to explain why this was the case. I argued that various factors are important. Employing participatory design methods gave insights into what the board of mayor and aldermen and the concern directors looked for in the cockpit, but also provided further questions about how to measure these indicators. Hence, these meetings provided both answers to questions, but also posed new insecurities. The way this was dealt with was to plan additional participatory design meetings and sessions, but in the meantime the project team did not work on designing indicators and establishing the cockpit.

The final chapter of this thesis discusses the answers to the main research question as well as the sub questions that were posed in the introduction, reflects on the process of setting up the cockpit and reflects on the theoretical framework that was employed. Finally, it gives some general recommendations for further research and concludes with recommendations for Enschede. First, the sub questions are answered, before moving on to the main question, reflections and recommendations.

6.1 Answering the questions

The first sub question that was posed in the introduction stated: what is known theoretically and from previous research about the process towards a performance measurement system, what steps are generally taken and what does this mean for the actual design and implementation of a performance measurement system? This question was answered in the theoretical framework. There are different takes on what the process towards a performance measurement system should look like, and the process that was selected for this theoretical framework was designed by Flapper et al. (1996). This process defines three steps: "Defining Performance Indicators, Defining relations between Performance Indicators and Setting target values of ranges of values for Performance

Indicators" (Flapper et al., 1996, p.28). During this first step, six different sub-steps are defined: Brainstorming, Clustering, Priority Setting, Selection, Definition and Measurement (Flapper et al., 1996). It is argued by Flapper et al. (1996) that by using this systematic method there is a clear relationship established between the indicators in a performance measurement system and the goals of the organization.

The second sub question that was posed in the introduction stated: how did the process towards a performance measurement system in Enschede develop? This question was answered in the Background chapter. The three months in which the cockpit was set up consisted of three different stages. The first stage was to meet with individuals in the organization who are involved with measuring and monitoring as part of their activities. These meetings took place in a non-structured manner, but the goal of the project leader was to gain input on what the cockpit should look like, how to deal with the information in it, where the information could be found and what potential problems could be. The second stage was to consult the actual users of the cockpit to see what information and indicators they would want to be part of the cockpit. The original idea was to have two sessions, one with the board of mayor and aldermen and the concern directors and one with colleagues. Throughout the process however, the project team kept adding sessions like these. With the management teams of the different programs as well as with other colleagues. These sessions were sometimes planned after the three month time frame has passed. The third and final stage of the process was supposed to be the stage in which the actual cockpit and the indicators would be built. Speaking in the terms of Flapper et al. (1996) the Brainstorming stage would take place in the second stage of the cockpit's process and the remaining steps would take place in the final stage of the cockpit. This stage however, never truly started. Part of the reason for this was the adding of participatory sessions to the second stage, because there was uncertainty about whether the indicators from the sessions that were planned would be the right ones. Another important reason was the wish to consult more people within the organization once the participatory sessions had started and gained a positive response. Hence, it was the intention to do something the best way possible, but this led to the fact that we never got around to the third stage during the three month timeframe.

The third question that was posed in the introduction stated: did the cockpit project team employ elements of participatory design as planned? What elements or methods were employed, what was the result of this and in what way were the inputs translated into the eventual cockpit? The project team used participatory design meetings in the process towards setting up the cockpit, though not as planned. Originally, the plan was to organize two sessions with target groups. One session with the board of mayor and aldermen and the concern directors another session with colleagues. The first one was to collect indicators and the second one to both collect indicators and

gain feedback on what was already there, as this meeting was planned at the end of the three-month timeframe, though with enough time left to implement any feedback. However, after the first session with the board of mayor and aldermen and the concern directors, the project team decided to plan more sessions like these with for example management teams. An additional five meetings were planned and in the meantime the project team did not work much on establishing the cockpit and the indicators. It is argued here that in this case there was too much participation, which frustrated the process. These participatory meetings were used as an attempt to take away insecurities within the project team and with the project leader regarding the indicators that should be added to the cockpit. This meant that after the three month timeframe there was no first version of the cockpit. Therefore, the question of whether the input from the sessions is translated into indicators in the actual cockpit cannot be answered.

The final sub question that was posed in the introduction was: how did the cockpit project team deal with implementing performance measurement indicators in the administrative cockpit? How were indicators determined, were the do's and don'ts (Marr, 2008) followed and what were the consequences of this? The answer to this question is that for the most part, the cockpit project team did not deal with implementing performance measurement indicators in the cockpit. At the end of the three month timeframe there were some indicators present in the cockpit, which are listed in table 4.1. Almost all of these were indicators that were already used in an earlier version of the cockpit that only discussed Economy and Work. This cockpit was set up previously by the project leader. Hence, no real new indicators were determined. Regarding the do's and don'ts by Marr (2008) about half of these were followed. These were discussed in section 5.1.2. What the implications of these do's and don'ts for the cockpit are however, cannot be concluded because there is currently not yet a first version of the cockpit in place.

Now, the main research question of this thesis is answered. It stated *in what way has the process of setting up an administrative cockpit for Enschede and the use of participatory design methods influenced the design and implementation of a set of performance indicators for the economic strategic goals and other policies in the cockpit?* Both the process and the use of participatory design methods have influenced the design and implementation of the cockpit and its indicators, as both have caused a delay in the administrative cockpit. This was particularly the case for the participatory design methods. During the process, additional participatory sessions were added by the project team and in the meantime they did not set up indicators based on the information and input they already had. It was argued that an important reason for this lies with the project leader and the project team who both decided to add more participatory sessions and decided to not work on the indicators during the process in such a way that led to a first version of the cockpit within the three month timeframe. Furthermore, there was a lack of knowledge of

setting up (outcome) indicators within the project team, leading to insecurities regarding the indicators. To compensate for this, more participatory meetings were planned, with the consequence of the three month timeframe being too narrow. What is already clear about the design of the cockpit, is that the indicators will be ordered based on both relevant themes (discussed in the background chapter) and on input, output, outcome and state of the city. Specifically interesting are the outcome indicators in Enschede's cockpit. Outcome indicators, as discussed in the theoretical framework, take into account (unexpected) side-effects of policies. These are therefore very difficult to establish. The project leader however, defined the outcome indicators in a very different way. The cockpit's outcome indicators are indicators that link to the strategic challenges for the city, but cannot be fully influenced by the policies and efforts from the organization of the municipality. An example of an outcome indicators that are currently part of the cockpit (all indicators are listed in table 4.1) is economic growth, which is an important indicator linking to the strategic challenges of the city, but as an outcome indicator it disregards any side effects of policies, and is therefore not an outcome indicators was it was defined in the theoretical framework. The reason for this development lies with the personal vision on the public and private sector of the project leader and the concern director who initiated the plan for an administrative cockpit. They both believe that the public sector should operate more as the private sector, and have political beliefs that fit within this view. Hence, they are not as concerned with policy side effects, but are more concerned with the strategic challenges and how these can be reached. The final element during the process of setting up the cockpit that influenced the design and implementation, or the lack thereof, was the fact that the cockpit should be filled with indicators and data already present in the organization. This meant not only that certain indicators mentioned during participatory sessions could not be implemented in the cockpit because there was no data within the organization, but for a lot of indicators and data the project team did not know whether this data was present in the organization at all. This meant consulting other colleagues, who were often also unsure. Because of this, it is expected that indicators will not be added to the cockpit, without the project team being sure of whether the data for this indicator is present in the organization or not. Hence, the process itself and the use of participatory design methods had a great influence on the design and composition, or rather the lack thereof, of the cockpit after the three month timeframe.

6.2 Reflection and Recommendations

This thesis attempted to explain how certain elements and the use of participatory design methods in a process towards performance measurement can influence the content and composition of a performance measurement system. It used the case of Enschede's administrative cockpit as an

illustrative case for this, designing a theoretical framework that contains components of performance measurement, the process towards performance measurement and participatory design. This section reflects on the theoretical framework, the research process and the findings, before giving some final recommendations.

First, I tried to be as objective as possible throughout this research process. As noted by Gabrieljan et al. (2008) the use of participatory observation holds the downside of a bias in the data collection and in interpreting the results. At the same time however, had I not used this research method and only have the role of researcher, rather than also being a part of the project team, I would not have been able to make some of the important observations that are part of the analysis and I might not have been able to answer the research question and figure out why there was no first version of the cockpit in place after three months. Therefore, I argue that in this case the results and observations gained from using the participatory observation method outweighed the downside of the potential bias this method causes.

Regarding the theoretical framework, it was designed in order to account for the influence of employing participatory design methods and the process towards a performance measurement system on the composition and content of this performance measurement system. This theoretical framework could be applied to any other case in which a performance measurement system is to be designed and implemented, and aims to use participatory design in the process. It is most suitable for public organizations, as the theoretical notions it includes are also directed to performance measurement in public organizations such as the general difficulties in an organization as theorized by Lohman et al. (2004) and the list of do's and don'ts when implementing a performance measurement system in a public organization as theorized by Marr (2008). The theoretical framework that was designed uses theoretical insights that have been around for some years now. It could be argued that these are therefore slightly outdated. However, during my search for literature I did not find evidence that these theoretical insights have been falsified and are indeed outdated. Therefore, it is argued here that although these theoretical insights have been around for some years, they have not been rendered meaningless by new research, which means they are still suitable to use in this theoretical framework.

This theoretical framework did not take into account the influence of individuals or leadership in the process, as I did not expect this to have a high level of influence beforehand. From the background chapter and the analysis however, it became clear that in the case of Enschede's administrative cockpit the role, preferences and behaviour of the project leader and to a lesser extent of the concern director proved to have a great influence on both the process towards performance measurement system and the (lack of) a performance measurement system in Enschede. I would therefore recommend including the notion of leadership in the process towards

performance measurement in further research that attempts to explain how a process towards performance measurement influences the content and composition of this system.

Regarding the recommendations for Enschede the main reason for the fact that there was no first version of the cockpit after three months was that the project leader was unsure of which indicators should be part of the cockpit and was unsure of how to measure the new indicators that resulted from the participatory sessions. I would therefore recommend consulting with someone who has experience with designing and implementing performance measurement systems in the public sector, preferably on the local level. This way, the project leader could gain the knowledge and information that is necessary not only to set up the first version of the cockpit, but also how to keep the information and indicators up to date and to add indicators when this will be necessary in the future.

Theoretically the main conclusion is that the use of participatory design methods, and specifically the adding of new participatory meetings during the process of setting up the cockpit, frustrated the process and led to there not being an administrative cockpit established after the three month timeframe. At first, a participatory design was employed to get input from prospective users and make sure that the information in the cockpit met the information needs of prospective users. Throughout the process however, the participatory design was used to deal with insecurities within the project team about what indicators should be added to the cockpit, and more meetings were added as these insecurities grew. The main theoretical conclusion therefore, is that the use of a participatory design frustrated the process towards establishing the administrative cockpit in Enschede, which means it indirectly also influenced the content and the composition. This insight should be taken on board by anyone aiming to use a participatory design, by being aware of this risk it will be easier to avoid it.

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