How Can Municipalities Implement the Sustainable Development Goals? A Qualitative Study of Integral Approaches

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ABSTRACT,

In 2015 the United Nations introduced the seventeen sustainable development goals (SDGs). These goals can be seen as wicked problems due to their interconnectivity that cuts across multiple levels. The wicked problems can be solved by having a network. A network is regarded as adaptable, flexible and allows members to achieve something that can not be done individually. A dual-operating system consists of one stable hierarchy and a dynamic network. This system seems helpful as the entire organizational structure does not has to change. The municipalities need to translate the global goals into local goals. However, this still seems a complicated process. According to the association for municipalities in the Netherlands (VNG), an integral approach is necessary to accomplish this translation. This research seeks to find answers about the best approach to work integral and the factors influencing it. A literature study found that cross-functional teams are valuable when working with different departments. Then, qualitative research was used to determine the integral approaches different municipalities in the Netherlands are already using. In total, ten people from seven municipalities are interviewed. Four municipalities because of their integral approach and three because they are global goal municipalities. People are chosen because of their experience with integral working approaches or their effort with SDGs. From the findings of both literature and the qualitative research, it is clear that SDGs are wicked problems. The research showed that cross-functional teams need an additional step of goal setting before working on a project, and a dual-operating system seems useful in theory but is not much used in practice. Furthermore, qualitative research found that municipalities are still looking for the best integral approach. However, most municipalities use an "Opgavegericht" (i.e., challenge-based) approach. Some factors still hinder the collaboration, for example, a silo mentality, lack of support from top management, a low support base, and misunderstanding of the SDGs. Therefore the ADKAR model (Hiatt, 2006) is valuable for changing the organization by creating awareness and altering the silo mentality.
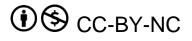
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Keywords

Municipalities, sustainable development goals, wicked problems, integral approach, cross-functional teams, dual-operating system.

1. INTRODUCTION

The Sustainable Development Goals (SDGs) were approved by the United Nations in 2015 as a worldwide call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity (UN, 2022). These goals are illustrated as indivisible, interlinked, and have an integrated approach, with interconnections and cross cutting components (Krantz & Gustafsson, 2021). The SDGs relate directly to the local government and will need the help of these local governments to implement the goals (Slack, 2015). Due to the fact that the Netherlands is a very decentralized country, the local municipalities can determine their own policy (Plasterk, 2013). However, implementation of the SDGs necessitates partnerships between national, provincial, and local governments (Guha & Chakrabarti, 2019).

The association for municipalities (VNG) in the Netherlands states that taking an integral look at social tasks is necessary, which makes cooperation between central government and municipalities, residents, companies, and social organizations essential (VNG, 2019). But how this needs to happen and which approach to use is still very unclear. The VNG launched a campaign called Municipalities 4 Global Goals to show the importance of the SDGs and how municipalities can contribute to those goals. All of their goals are, to a certain point, local goals. The help of these local actors is essential. Without their involvement, sixty-five percent of the targets likely cannot be fully accomplished (Bardal et al., 2021).

However, in practice, there is currently no consistent translation from SDGs into national policy goals. In the Netherlands, the SDGs are still seen as an international program for developing countries, which means that interdepartmental ownership is lacking (Rijksoverheid, 2021). Although the SDG framework goals aim to create a shared understanding in an organization, it can be interpreted in diverse ways, leading to confusion and disagreements (Lyytimäki et al., 2020). There are various and complex connections between the SDGs, so processes for achieving some of the different goals may be opposites (Valencia et al., 2019). Because of their complexity and the linkage between the different SDGs, they can be seen as wicked problems (Head, 2019).

Rittel and Webber (1973) define wicked problems as problems for which traditional public policy strategies are not applicable because there is no obvious solution. These wicked problems do need to be managed though. A common approach to explain these problems is the use of collaborative management or network management (Weber & Khademian, 2008). These approaches require managers to work across boundaries with others who have relevant knowledge and a stake in the issues they are facing. Therefore a cross-functional team is perceived as an organizational solution to help manage wicked problems (Pakarinen & Virtanen, 2017). Edmondson and Harvey (2018) refer to cross-functional collaboration as teamwork in which people from various backgrounds and areas of expertise join a temporary group to take on an unknown, open-ended project.

As mentioned before, the municipalities in the Netherlands all have their own decentralized way of working. One important reason for the decentralization is the belief that municipalities become the primary provider of social services because they will be better able to customize provision to individual needs (Vermeulen, 2015). These municipalities consist of several departments that work autonomously within their own disciplinary 'silo'. This disciplinary orientation explains how members perceive, understand, and create solutions concerning their own environment (Kurland et al., 2010). Public sector organizations, therefore, fail to consider cross-boundary challenges that exist beyond their traditional responsibilities (Lagreid & Rykkja, 2015). There is a mismatch between the structure of the wicked problem and the current organizational structures (Lagreid & Rykkja, 2015).

Kotter (2012) believes that the existing structures and strategies that collectively form an organization's running device need an extra network element to deal with the challenges produced through rising complexity and fast change. He believes the solution is a dual operating system. It enhances the traditional hierarchy instead of overloading it.

Currently, there is almost no theory to be found on how public organizations like municipalities have to collaborate with others outside their departments to deal with complex problems. Quitzau et al. (2022) recommend more research on the meaning of intra-structural factors for sustainability management. Additionally, Fenton and Gustafsson (2017) conclude that information gaps related to implementing and incorporating the SDGs' into existing policies and practices of municipalities need to be explained by research to make the implementation effective. As a result, this research wants to determine what is needed within a municipality to work integrally within their organization to implement SDGs. This study will therefore answer the following question "How can integrated sustainable development goals be implemented in a discipline-oriented organization such as a municipality?"

To find an accurate answer to the research question the following sub-questions need to be answered:

1. Which theories can explain how discipline-oriented municipalities can work effectively in an integrated way?
2. Which approaches to work on integrated goals have been proven successful for municipalities?
3. What are the factors that help or hinder implementing those approaches in municipalities?
4. How can municipalities improve the implementation of sustainable development goals in their municipality?

2. THEORETICAL FRAMEWORK

To design this research, literature is studied based on the SDGs and integral collaboration. The first theory is about wicked problems, as SDGs are seen as wicked problems. Additionally, theories are discussed related to working integrally within organizations and how this can help to deal with wicked problems. Furthermore, the dual operating system theory is elaborated upon because it shows a network besides the current hierarchy, which can be interesting for municipalities.

2.1 Wicked problems

The sustainable development goals are seen as weakly acknowledged wicked problems because of their complexity (Kerekes, 2021). The SDGs are complex because of their interconnectivity, causing them to operate at multiple levels (Head, 2019). These characteristics match the characteristics of wicked problems. Characteristics of such wicked problems are that they have no definite formulation, are unique, have no stopping rule, remain unrelenting, and have no structure (Ritchey, 2013). Furthermore, a wicked problem does not have a set of resolutions or any clear procedures that may be used in a plan to solve the problem. Also, they are overlapping subsets of problems that cut across departments and domains. Other characteristics are that every wicked problem is related to another wicked problem and that the problems can be explained in many different ways (Rittel & Webber, 1973). Furthermore, they

consist of tensions among the different stakeholders who have different values or interests (Dentoni et al., 2018). The wicked problem theory seeks to divide the complex problem into several smaller, more manageable units and assumes that the relationship within the problem set is apparent.

Head and Alford (2013) state that a traditional public administration structure is not equipped to deal with wicked problems effectively. The hierarchy within these organizations restricts the possibility of thinking broadly about policy challenges because people are kept within their own departments and are encouraged to specialize in their area of professional expertise. This created silos within the organization that could not deal with such big problems in comprehensive ways.

However, integral collaboration across boundaries is needed to understand the complex issues. Wicked problems within organizations are multi-dimensional and need cross-functional and collaboration practices to be solved (Andersen, 2020). Collaboration helps to create a better understanding of the underlying causes, increases the probability of finding a solution to the problem, and enables the implementation of the solution (Head & Alford, 2013). Van Bueren (2003) argues that uncertainties shaping the wicked problems can only be reduced over network-based cooperation.

Networks, instead of the traditional hierarchies, have several characteristics that can help to manage complex problems. They are regarded as adaptable, flexible and allow members to achieve something that can not be done individually. So to manage the wicked problems, a different approach is needed. Currently, knowledge sharing between several members in order to accomplish network efficiency is still difficult. However, knowledge sharing and integration are crucial aspects when developing collaborative capability (Weber & Khademian, 2008).

Organizations need several capabilities to observe wicked problems and act appropriately. These capabilities are reflexivity, resilience, responsiveness, and revitalization. Reflexivity is required to handle several aspects of the wicked problem. Resilience is necessary for the fast-changing course of problems. Responsiveness is essential to react to the changes and still balance the different public values. Revitalization focuses more on recognizing and unblocking counterproductive patterns in the process so actors can be awakened and have an innovative process in place to handle wicked problems (Termeer et al., 2013).

Some wicked issue analyses have the disadvantage of stating an idea of 'success' that is nearly unreasonable to accomplish. Instead, they should focus on the small wins (Alford & Head, 2017). When wicked problems can not be solved, there needs to be a shift of thinking to manage them more correctly through continuing programs and standards (Head, 2010).

2.2. Cross-functional teams

Both a matrix organization and a project organization are cross-functional structures that can include CFTs. However, it appears that matrix structures have a restricted ability to solve wicked problems of public sector organizations. Additionally, its use in practice is restricted. Cross-functional teams present less of a risk to the fundamental organizational structure. It will be hard for public organizations to undergo a structural or cultural change (Pakarinen & Virtanen, 2017). Therefore, there is a focus on cross-functional teams and not on matrix organizations.

Cross-functional teams bring together a diverse group of qualified individuals who have a shared ideology for arranging activities and carrying out organizational responsibilities (Wiedemann et al., 2019). Cross-functional integration is important in the activities within an organization that requires expertise from different functions. This integrating mechanism allows for the smooth execution of activities (Lopes Pimenta et al., 2014). According to Lopes Pimenta et al. (2014) CFTs are seen as an essential management tool that promotes integration across internal functions through formal and informal collaboration procedures

Kerrissey et al. (2021) believe that cross-functional teams that bring together people from different departments are critical to solving social challenges. These joint problem-solving practices refer to sharing resources and information with different team members, which reveals a cognitive experience of seeing the work as truly shared. It enables learning about other persons in the context of the task, which creates a setting for collaboration. Teams that worked together to solve a problem, work faster and continued to make progress even when new challenges occurred by avoiding power conflicts and staying focused on their goals (Kerrissey et al., 2021). According to Edmonson & Harvey (2018), cross-functional teams are of growing importance because they help solve the complex problems that organizations face.

Fundamental advantages of cross-functional teams are their decentralized way of working, the expertise of different departments, and the shortcomings of the original hierarchy of an organization are overcome by the team that cuts across the lines of authority (Henke, 1993). Because the concept of CFTs includes bringing together people from different departments, the team can be utilized as a way to overcome organizational silos (Piercy et al., 2012). In general, CFTs improve intra-organizational collaboration, communication, support the realization of specified goals, and remove internal competition (Pakarinen & Virtanen, 2017).

Research found that behavioral integration is needed for the team to succeed (Tekleab et al., 2016). Behavioral integration refers to the knowledge exchange, collaboration between members, and joint-problem solving (Smith et al., 1994). Additionally, there are a few more critical factors for the success of a cross-functional team. These factors are the membership of the team, a skilled team leader, both authority and autonomy to accomplish tasks, high-quality internal and external communication, management support, and the right resources for the team (Proehl, 1996). Research by Loving (2021) described five other components necessary for interdepartmental team success. The first critical factor is the right goal. The goals need to be specific and demanding. This is vital for the purpose of the group because specific goals improve performance. The second component is an organizational culture with no hierarchy, trust, and open communication. The culture influences the behavior and attitudes of the employees, which impacts performance. The third component is the right leadership, meaning setting specific goals, maintaining collaborative cultures, providing feedback, and addressing conflicts. The last factor is having the right people in your organization that hold the skills needed for the job and have high emotional intelligence.

2.3. Organizing answers to wicked problems

The dual operating system consists of a hierarchy on the one side and a network on the other. Where the hierarchy does not change much, but the network is very dynamic (Kotter, 2014). The hierarchy part of the dual operating system varies from almost all other existing hierarchies. Significant parts of the work that are usually allocated to the hierarchy but demand innovation, agility, difficult change, and big strategic initiatives are executed quickly and have been transferred over to the network part. Kotter (2014) describes a network with in the middle a guiding coalition and around it a few strategic initiatives to create a dynamic structure.

Head & Alford (2013) state that a well-functioning network raises the possibility that the characteristics of the problem and its actual cause can be better identified. Secondly, they mention that collaboration increases the chance of finding solutions to the wicked problem because the network gives more awareness, but also collaboration improves the prospect that multiple parties reach consent on how to operate. Between five to ten percent of the employees will work in such a network.

According to Kotter (2014), this dual operating system consists of five principles. The first principle is that many people drive important change from everywhere, not just the usual few appointees. It is important to have new ways of collecting data and additional people with different views of the world. The second principle is a get-to mindset. Thus employees need a choice to step up and act, so they feel special to be involved. Third, you need actions that are heart and head-driven. Therefore one must appeal to the faithful and underlying human urge to contribute to a more significant cause to help an organization move forward. The fourth principle focused on leadership. It is crucial to have passionate, inspired, and innovative leaders with a vision.

The last principle of this dual system is two systems and one organization. The network and hierarchy are inseparable with a constant flow of information. By these principles, the network can be very flexible, the accelerators can drive problem-solving, collaboration, and creativity, and the people doing the work will be focused, committed, and passionate. This approach uses a network populated with employees chosen from the entire organization. It releases information from silos and hierarchical layers and enables it to flow through the entire organization with more freedom and speed (Kotter, 2012).

However, Kotter (2012). believes that the biggest challenge of the dual-operating system is making people that are used to a controlled hierarchy environment believe that such a system will work. He states that is why a sense of urgency around a strategic prospect is of critical importance.

Both the wicked problem theory and the dual operating system theory show the importance of working with a network instead of focusing only on the traditional hierarchy. To create a network, cross-functional teams can be used so departments of municipalities can collaborate on complex issues. Pakarinen and Virtanen (2017) state that CFTs can be thought of as an organizational solution to address the ideas of public organizations within the framework of open systems, and they mention that CFTs can help when dealing with wicked problems.

3. METHODOLOGY
3.1 Research design
This research is based on qualitative data. Qualitative data is chosen because there is a focus on the current situation of municipalities and this research wants to determine how people cope in this context (Yin, 2011). The interview questions will determine the successful practices of an integral way of working across departments of municipalities. By talking to highly ranked people of different departments within a municipality, this paper would like to establish the best approaches and challenges of working with different departments. In combination with looking at what already works for municipalities that worked on an integral subject/project, one can get a better idea of what can work in practice.

An inductive approach called the grounded theory (Glaser & Strauss, 1967) was used. The grounded theory is utilized because it helps the researcher to identify the essential meaning of human understanding and its interactions (Randall et al., 2012). In this research, it is important to understand what experience people have when working integral and how they interact with the SDGs. The inductive approach is used to find a relationship between the characteristics that contribute to working integrally within different municipalities. Additionally, the theory can help to determine some difficulties that are occurring when collaborating together . The grounded theory will help to develop an explanation of which factors are hindering or helping collaboration efforts between different departments.

3.2 Sampling approach
In this research, purposive sampling was used. The number of interviewees in total was ten, which is a small number but can give a relevant outcome. This research examined the different approaches used by municipalities when working together on an integral subject. Because of the small sample and the wish to select cases that are highly informative, the purposive sampling method is appropriate (Saunders et al., 2009). The purposive sampling approach will thus help to determine which people will be able to answer the research questions in the best possible way. Before doing the actual interview, an information meeting was done. This helped to establish if the municipality meets the criteria and gather background information about the organization. Afterwards, people were selected based on their experience of working on an integral level and their function. The functions can be found in Table 1. Therefore, the person from the information meeting could be different from the person interviewed. For the SDG municipalities, this will be a member of the management team or a municipal secretary. When looking at municipalities that collaborated successfully on an integral subject, a member of the management team or a policy officer will be most suited. Their functions can be found in Table 1.

In total ten interviews with seven municipalities were conducted. Four municipalities that are not actively implementing the SDGs, but who have worked on an integral level were interviewed. They are selected based on their communication and methods for integral collaboration that was successfully used in projects. Additionally, three different active SDG or Global Goal municipalities were interviewed to determine their integral approach. A municipality was categorized as active when they use the SDGs within their project and communicate this externally. Within these SDG or global goals municipalities two

Function	Number of people from active global goals municipalities	Number of people from integral approach municipalities
Mayor	1	
Board advisor	1	
Manager international affairs	1	
Program manager economics and international policy	1	
Public affair coordinator	1	
Strategic advisor	1	2
Policy advisor public health		1
Cluster secretary spatial development & management		1

Table 1 functions of interviewees

different persons were interviewed. The idea was to determine if the answers led to the same findings, which would increase the objectivity of the outcomes (Yin, 2011).

The best strategy within the purposive sampling approach is heterogeneous or maximum variation sampling. This will help to observe different key themes (Saunders et al., 2009). The distinctions between the different municipalities can give purposeful insights into integral collaboration on a central topic.

3.3 Data collection

For the interviews, open questions were used and listening is necessary to really hear and understand what the interviewees are saying. Furthermore, it is important to let the other person speak and to be as non-directive and neutral as possible. A semi-structured interview (Saunders et al., 2009) guide will be used so all topics will be discussed during the interview and additional questions can be asked when necessary. So some answers can differ per interview based on the different organizational approaches used.

The first few questions are about the structure of the teams within the organization and determine how many different departments are involved. To check if the municipalities actually have a successful integral approach, there was a question about successful projects. Additionally, there were questions to determine which methods they are using when working integrally and if there are certain steps they take when working with different departments. After these issues, there were questions to determine the support base within an organization for working integrally and for working with the SDGs. This will hopefully help to determine why the implementation of global goals to local goals is still difficult. The last question is about factors that need improvement to enhance collaboration across departments. All members were asked to describe their ideal municipality to identify certain challenges. All the interview questions can be found in Appendix A.

3.4 Data analysis

In order to analyze the data collected, interviews have been transcribed to stay as close as possible to the original data. The transcription is done based on the recordings made from the conversation with the people from different municipalities. All these different items consist of highly detailed information and are thus unique. The purpose of trying to code the data is to see the differences and similarities between the cases and gain insight (Yin, 2011).

The Gioia method is used for coding and analyzing the qualitative data (Gioia et al., 2012). First, terms, codes, and categories emerge by openly looking at the data. These are the first-order codes. After the research continues, this method is used to examine the differences and similarities between the categories discovered. Every category gets a label and tries the discover a structure within these categories. The researchers have to think of themselves as knowledgeable agents who can think of multiple levels simultaneously. One has to take into consideration the codes but also a more abstract second-order theoretical level.

In this secondary analysis, one should verify if the new theme explains the phenomenon and suggests ideas that may help explain it. Whenever the full arrangement of first-order terms and second-order subjects and all dimensions are discovered, then there is a reason for building a data structure. This helps to show the development from raw data to conclusions about the data (Gioia et al., 2012). Thus the Gioia method can be seen as a social process in which researchers utilize their collected data and information from the participants to create a theory or advice (Walsh et al., 2015).

From the interviews, different approaches for working integrally will be identified by looking at the data from a broad perspective. This raw data will be analyzed, and important sentences will get a code. After, it can be divided into smaller sub-categories to see if there are similarities between different municipalities. Eventually, the sub-categories will be transformed into clusters that are identified by the use of theory. This approach will help to see the similarities and differences between successful approaches and common difficulties when working on an integral level within municipalities. This theory is used because it provides a clear overview of the data. To increase the objectivity, a second encoder is used to determine categories.

4. RESULTS
4.1 Integral collaboration approaches

In total, five of the seven municipalities mention they work with project teams. However, one of the municipalities chosen for their integral approach state that they are in the beginning phase of project-based working. They are mentioned as a municipality that uses a project-based approach in Table 2. The other municipality chosen for integral collaboration mentioned they do not prefer to work with project teams because, within their municipality, there is an 'allergy' against project teams. A reason for this allergy is that working with a project team is often seen as something you have to do besides your other tasks. They were excluded from the project-based approach category.

In total, four municipalities mentioned they have an "opgavegericht" (i.e., challenge-based) way of working. This is the case for both the global goal municipalities and the municipalities selected for their integral approach.

Two of the municipalities chosen for their integral collaboration approach changed their organizational structure to make integral collaboration more effective. One organization did this recently, the other one in 2015. These are also the municipalities that state to work with cross-functional teams.

In four of the cases, the challenge-based way of working is combined with a project-based working approach. Two of the municipalities started to only have a project-based way of working and did not mention a challenge-based approach. Within these project teams, two of the cases explicitly mentioned that they have multidisciplinary teams. In total, five municipalities work together with people from other departments when participating in a project. In all these cases, when the project is finished the participants go back to their own department until a project leader reaches out to them for a new project.

Approach	Number of active global goals municipalities	Number of integral approach municipalities
Challenge based	2	2
Project-based	3	3
Scrum or agile	0	2
Stakeholder collaboration	3	4
Own approach	1	1

Table 2 approaches

Additionally, two municipalities mentioned they use an Agile or Scrum method. However, one of those mentioned this method is not anchored within the organization. Also, one municipality mentioned they would like to have training sessions about Scrum methods to work more data-driven, but it is not yet realized. Two other municipalities mentioned using their own model or approach for integral collaboration. One of them is a global goal municipality.

All seven municipalities mentioned they also collaborate with external stakeholders during their integral projects. One municipality mentioned this is not done enough within their organization though. The collaboration differs per project. Collaboration with different parties is mentioned like citizens, experts, housing associations, farmers, businesses, education, and social organizations.

4.2 Factors influencing integral collaboration and SDG implementation

Some challenges within the municipality are mentioned when working integrally (Table 3). In practice shifting their focus from their own department to another department still seems difficult. Six municipalities believe this is still a problem in their organization. This occurs in both the integral collaboration municipalities and the SDG municipalities. This departmental focus also exhibits the communication between people within the organization. Communication difficulties are mentioned by three of the municipalities. They mentioned that they do not know the different colleagues in their organization very well and find it hard to determine who is doing what. This makes it hard to reach out. Also, having different people with different personalities sometimes created communication difficulties as people do not understand each other. However, two of them mentioned that working from home because of Covid also affected this situation.

When looking at the active SDG municipalities, the support base within the organization is minimal. In all the global goals municipalities, there is a special coordinator. Those people mentioned that there are a few enthusiastic colleagues, but the movement of the entire organization still remains difficult. A global goal municipality mentioned that without the support of top management, the implementation of SDGs is difficult. One municipality commented that the younger people within the organization are more aware of the SDGs because they learned about the topic during their education.

Within the same organization, the views sometimes contradict. The mayor of a municipality stated that the SDGs are simple and fun, which makes it understandable even for children. However, another person in the same organization stated that not every employee understands what SDGs are and how they can contribute to them.

Several reasons are mentioned for the low support bases, for example, that the SDGs are too abstract, which causes ignorance among colleagues. Another reason mentioned is that the SDGs are seen as something international and not a local issue. One of the integral collaboration municipalities even answered, *" We do not believe all SDGs are appropriate for our municipality, but more for developing countries."* So the SDGs are hard to understand fully. However, if people are enthusiastic, they carefully start applying an SDG to their own tasks. One municipality gave the example of their strategic advisers who were inspired and started applying the goals to their policy.

Two municipalities mention that it seems that the SDGs are not seen as a priority, or there is no urgency to use them. A reason for this lack of priority is that the SDGs are seen as additional tasks besides the usual ones. Also, two of the global goals municipalities mentioned that a lot of people in the organization

Factors	Quotes
Inter departmental focus	"Each team has a year plan, but they don't communicate with each other either. It's actually all viewed from their own silo." "If you're talking about collaboration, it could be improved. The departments, in my view, are actually silos that are very much involved with their own program, their own content and their own teams."
Communication	"I don't know if it's really because of that, but Covid has also created more distance. I do have to deal with that. You don't walk into someone's office easily. In the meantime a lot of new colleagues have started that I sometimes don't know well, or I am not sure who does what."
Low support base	"The challenge is that there are a few fanatics like me and maybe a few other colleagues who work with SDGs, but it is very difficult to get your entire municipal device on board.."
Understanding SDGs	"It's complicated sometimes. It is not only these 17 goals, but there are also a lot of sub goals." "The biggest challenge is that the goals are quite abstract. I think that for many colleagues it is too abstract and sometimes too much." "The Dutch word 'duurzame ontwikkelings doelen' is long, so people often use the abbreviation SDGs for convenience and then it sounds English. I often hear people say that it has something to do with international policy."
Priority	"I think the biggest challenge is to convince colleagues of the added value of the SDGs for their own policies and work. There is no sense of urgency. Because this is not imposed nationally, the feeling is even less." "You should also not forget that a lot of work has moved to the municipality in recent years due to decentralization. The global goals are not a priority and I understand this very well. So it's up to us to see how the global goals can serve as inspiration."
Time	"Developments are moving at a fast pace, so it's really hard to keep up with it. Sometimes the collaboration is not optimal because of the speed of the process." "There are people who like the SDGs, but there are also people who don't have the time to work with them." "There are also colleagues who are like: I already have enough work and now we have to work with SDGs on top of that. So sometimes there is just not enough time."

Table 3 factors influencing SDGs

are working with sustainable development goals but not deliberately.

Furthermore, three municipalities mentioned time as a problem. There are comments about the time pressure. This causes the municipality to make hasty decisions. Two different municipalities mentioned that political pressure causes the employees to work quickly. Municipalities state*: "We pursue the political agenda and the ambition of the council and aldermen, without really thinking about the big picture."* Others mention, *"We often have blinders on to make sure we solve it in time because our political administrators ask that we have an answer by then.".* This can also explain why the departmental focus is still in place.

Another reason mentioned by three different municipalities is the lack of support from the directors or management as a factor that makes integral collaboration difficult. Also, the global goal municipalities mention it is important that the directors first embrace the SDGs before they are seen as important by others in the organization.

When looking at the two categories, active global goal, and integral collaboration municipality, there are a lot of similarities between the approaches they use to work integrally. Additionally, in both cases, the support of management is mentioned to focus more on working integrally or working more with SDGs. Also, time challenges are mentioned by both. In some municipalities chosen for their integral approach, interviewees mention having projects that focus on sustainability or reducing poverty. Therefore, these two categories are very similar. However, only the SDG municipalities have a special coordinator and actively communicates to work with SDGs.

4.3 Possible solutions

People from different municipalities painted a picture of their ideal municipalities and named options to increase the integral working approach or the implementation of SDGs (Table 4).

Three municipalities that worked with an integral approach mentioned that their physical and social domains are still seen as two very different departments. The physical domain focuses on the physical ordering of an area (e.g., building houses, maintenance of roads), and the social domain focuses more on subjects like public health and education (Storm et al., 2016). By removing this separation, the municipalities believe integral collaboration can be improved because one has to look at the bigger picture and not only at one of the two domains. An example was given of a current challenge *"The social domain receives money for energy poverty, and they give this money to the persons who live in older houses, but the physical domain is responsible for making houses more sustainable but does not get this money."* This shows that there is only a focus on one domain, and they do not collaborate. Additionally, one of the organizations outsourced its social domain. They offer a solution to put people from the social and physical domains into one building and also to improve communication.

Organizational support from directors or management is also mentioned as an option to further increase integral collaboration and improve the implementation of SDGs. Two integral collaboration municipalities mention that directors should make a specific plan to work integrally. They believe this will help see the organization as a whole and not as a few separate departments. Another global goal municipality mentioned the idea of creating playful interventions for the SDGs to help create more awareness. For example, sit together around a table before a project starts and mention which SDG you are working on.

Although the different municipalities are working on an integrated approach, six of them mentioned that the integral collaboration within their organization still needs improvement by removing the department barriers and changing the mindset of people who think only about their own department. Two of these municipalities are still searching for the best approach to work integrally. One municipality stated: *" The best way is hard to determine right now. I think municipalities are still very much looking for it. This is also the case at a national level."*

Solution	Quote
One social and physical domain	"My ideal situation is that there is no longer a separation between the social and the physical domain. Not only between the jars but also no longer in people's heads."
Support from top-management/ directors	"I think that unconditional support from management also helps. The collaboration events that are now taking place are nice, but it really has to be propagated from above so that we have to work together." "Ideally, I would like all colleagues to scan the SDGs and take them seriously for their own policy. Obviously, for this to happen the board also has to embrace it."
Creating awareness	"So it will be very nice to show people what goals they are actually using and how they contribute in their own way to those global goals through a local meaning, such as energy policy."

Table 4 solutions

5. DISCUSSION

The purpose of this research was to find out which integrated approaches are successful for municipalities because an integrated approach is necessary for the implementation of the SDGs on a local level. Therefore, the main question was: How can integrated sustainable development goals be implemented in a discipline-oriented organization such as a municipality?

When looking at the SDGs, some factors still hinder effective implementation. The SDGs are seen as very abstract and hard to understand because of their interconnectivity. This is indicated by the fact that people think the SDGs only focus on international concepts and not on local policy, and people do not even know that they are working with the SDGs. Additionally, all municipalities mentioned they work with multiple stakeholders and clearly understand who is participating. These aspects illustrate that SDGs, in line with the literature (Kerekes, 2021), can be seen as wicked problems.

However, this lack of awareness about the SDGs in organizations is difficult for the local application. Creating awareness of the SDGs in the entire organization is very important because it is a critical factor for the implementation and the public support (Guan et al., 2019). The unawareness creates a situation where the SDGs are not prioritized or seen as urgent. So municipalities must go back to the basics of first understanding the SDGs before trying to implement them. One could argue that not everyone in the organization needs to understand the SDGs as long as they

contribute to them. However, when people within the municipality do not even understand the SDGs, it will be difficult to explain them to the local citizens. Yet, citizens can be partners in promoting sustainable development. Therefore their active participation is desired (Meschede, 2019).

To implement the SDGs, an integral approach is necessary. Cross-functional teams were used by municipalities but as part of a challenge-based approach. The organization consists of teams with cross-functional collaboration efforts that also engage with external stakeholders. According to Vinnova (2015), the Swedish National Agency for innovation, these challenges are worldwide, multidisciplinary, and affect people, planet, and profit. Therefore these challenges can not be solved by individual actors. Challenge-based learning (CBL) is suitable to help address SDGs because of its core elements (Gudonienė et al., 2021).

A factor that complicates the collaboration to solve challenges is the silo mentality that exists in discipline-oriented municipalities. So even when people from different departments collaborate in cross-functional teams, it is still not efficient due to the focus on their functional department. A possible answer for the silo mentality is the old structures of municipalities. According to Aardema and Korsten (2009), in the 1990s, a more decentralized sector or parliamentary model was introduced in the Netherlands. It was complemented by the idea that municipalities should work with a more 'business-like' approach. The most frequently mentioned disadvantage of this model is the categorization of departments.

The cross-functional team members in the municipalities are chosen for their skills or knowledge of a functional field. There is no other step between the selection of members and the start of a project. However, something is missing. Before the project starts, every member has to know what the goals are. When goals are challenging, specific, and obvious, people achieve higher performance and effort than when goals are unchallenging and unclear (Locke & Latham, 2002). In line with research from Loving (2021) the right goals are crucial for successful team collaboration. The absence of clear goals hinders public organization employees from performing their social duties and discourages them (Caillier, 2014). Commitment is essential because challenging goals require a higher effort (Locke & Latham, 2002). According to Lock and Latham (2002), two factors influence commitment. The first factor is importance. Making a public promise to the goals and the communication of inspiring leaders increase the importance of the goal achievement. The second factor is self-efficacy, so people should believe they can reach the goal. Before working on a project with people form different functionalities, the team should have a meeting where the goals are made clear to every team member so commitment to the goals will increase.

A change management approach is necessary to alter the silo mentality and better understand and implement the SDGs. Hiatt's (2006) ADKAR (awareness, desire, knowledge, ability, and reinforcement) model is helpful in this case because it presents elements to change an individual or a group of individuals. First, everyone in the organization should be aware of why integral collaboration is important and what it means for the implementation of the SDGs. Also, it is vital to communicate what the risks are when people do not change. The second step is to create a desire for this change. Thus, to motivate and inspire people to work integrally and use SDGs in their policy. A sense of urgency should be created to increase the impact of the change program and make SDGs a priority. Leaders must demonstrate their commitment and managers should advocate the change. The third step is knowledge, where one focuses on the available

knowledge in the organization. However, there may be a knowledge gap between their current knowledge level and the knowledge associated with integral collaboration and SDGs. People have to learn new things to close this knowledge gap. For example, learn new tools to increase collaboration. The fourth step is ability. To achieve success, you need people, who can identify problems, are team-oriented, knowledgeable, and well-trained to handle all emerging challenges (Al-Alawi et al., 2019). Here, it is crucial to emphasize the value of a collective teamwork approach to solve these challenges. The final aspect is reinforcement which strengthens the change. One should celebrate success and show the progress by demonstrating what the municipality achieved in terms of integral collaboration and the implementation of the SDGs.

Nevertheless, implementing the ADKAR model could be difficult because there is no clear approach to implement this change management approach and many people involved see the change itself as a single activity (Galli, 2019). Compared to other change models (Kanter, 1999; Kotter, 2012), the ADKAR model does not have a step of forming a guiding coalition. This coalition often communicates with top management, which helps to create acceptance and support (Stouten et al., 2018). Top-management support is mentioned as an essential factor for successful implementation (Intakhan, 2014; Sharma & Yetton, 2017) and is currently mentioned as a factor that limits collaboration and the SDG implementation in certain municipalities. Therefore, the leaders must show their commitment to the change during the desire phase of the ADKAR model (Tang, 2019).

When looking at the dual-operating systems, it seems a useful approach for collaboration. The organization does not have to change completely because part of the hierarchy remains. People who do not want to or can not change their minds can stay in the hierarchy, while people who are committed to the change move to the network. However, one could argue this maintains the silo mentality in such a top-down hierarchy as only five to ten percent of the organization is part of the network. Additionally, when looking at research published about dual-operating systems, since its existence in 2012, it is often used as an example and not as the main concept. Also, the literature does not have many examples of this approach used in practice. Therefore, one could argue if this system will work in practice or if it is just a great idea.

6. PRACTICAL IMPLICATIONS
There are some practical implications that could help to make the implementation of SDGs on a local level more effective. A recommendation for the SDG implementation on a local level is to use the ADKAR model to change the current situation of municipalities. The model could help to create more awareness about the meaning of SDGs and the importance of integral collaboration in the entire organization and show how the goals can contribute to the local policies. Awareness needs to be created not only in a passive way by, for example, giving a presentation but actively looking at which SDG a person in the municipality is contributing to or will contribute to. After this is obvious, the cross-functional team should have clear goal setting for the SDGs and the integral collaboration. Clear goal setting within a team increases commitment and shows the importance of SDGs. This sense of importance is currently missing. Therefore SDGs are not seen as a priority. Also, it is of great importance that the top managers understand and embrace the SDGs. Without the management of top management, the implementation of the goals will be difficult. Another recommendation is to create awareness that a silo mentality exists within the municipality as it hinders integral collaboration. The ADKAR model can help to change this mentality in the

knowledge stage, where training could be given to show the importance of thinking outside their functional department.

7. LIMITATIONS & RECOMMENDATIONS FOR FUTURE RESEARCH

Due to the time constraints, finding the right people within a municipality to talk to about integral approaches was hard. Only one person per organization was interviewed from all the municipalities chosen for their integral approach. Two of these municipalities communicated that they are working integrally not very often, only on certain projects. However, these municipalities communicate via online channels and during the information meeting that they have an integral approach. Additionally, within the SDG municipalities, the interviews were mostly conducted with SDG coordinators. Who then nominated a second person to be interviewed. This second person was often someone they worked with and knew the SDGs. This kind of snowball sampling may obstruct the objectivity of the research. It would have been better to choose someone from a completely different department and not a direct colleague of the first interviewee. So it would be best to strictly maintain the purposive sampling approach that was also used for selecting the first interviewee in an organization.

Another limitation is the interviews themselves. The questions were asked to people from different departments who have different functions within the organization. Which gave various perspectives, but some people interpreted the questions differently or did not know the answers to certain questions and described what they thought would happen in certain situations. To decrease the negative effects, I tried to ask a follow-up question. However, not in every case, this solved the misinterpretation. In further research, the misinterpretation can be reduced by giving a short explanation of the concept or terms used in the interview question.

Furthermore, the sampling approach is limited. Not all the organizations on the global goal municipality list of the VNG are actively using the SDGs within their policy. However, before the research, it was assumed that all the municipalities on the list were actively using SDGs. For future research, it would be helpful to determine why certain municipalities apply for the global goals title and do not actively use them. Moreover, it would be helpful to speak to more than two persons within one municipality to get a better impression of the entire organization.

Another recommendation would be to develop a tool or method that could determine the degree of awareness about the SDGs within municipalities and among citizens. Lastly, it would be helpful to do more research about challenge-based approaches in practice used by governmental organizations like municipalities. Currently, most literature is focused on educational organizations and their implementation within the learning process.

8. CONCLUSION

In this paper, research was done to establish methods that are used by municipalities to work integrally and eventually help implement the SDGs in local policy. However, there is no one best approach for integral collaboration, but the challenge-based approach is used the most. It suits the concept of SDGs because of the multidisciplinary approach, the involvement of stakeholders, and the focus on the environment. When working with cross-functional teams, as part of a challenge-based approach, the team should first determine clear goals before working on the project. This will create more commitment.

There are still some factors that hinder integral collaboration within a municipality and make the implementation of the SDG on a local level difficult. Factors mentioned are a silo mentality that exists in every municipality, causing people to focus on their tasks without thinking about other departments that are also influenced. Time and political pressure are also mentioned as factors hindering integral collaboration as they make people focus more on their own functional department. Another factor mentioned is a communication issue due to different characteristics or not knowing colleagues. Moreover, a low support base is found in several municipalities. There are a few enthusiastic colleagues, but the movement of the entire organization is difficult. This is also influenced by the lack of commitment from top management. This factor is mentioned by both SDG municipalities and municipalities chosen for their integral collaboration approach.

The main challenge within the global goal municipalities is the lack of understanding of the SDGs and how they can contribute to local issues. This creates a low support base within the organization. However, awareness is a critical first step before implementing the SDGs can occur, so the global goals municipalities first have to take a step back. Concludingly, both the global goal municipalities and the municipalities that are chosen for their integral approach should use the ADKAR model to make changes within the organization so these factors that hinder collaboration and the implementation of the SDGs can be overcome.

9. ACKNOWLEDGEMENT

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11. APPENDICES
Appendix A

Interview questions

1. Hoe is/zijn de team(s) in uw organisatie momenteel georganiseerd? (hoeveel afdelingen werken samen, horizontaal of verticaal, aantal mensen in het team, procedures)

2. Kunt u voorbeelden geven van projecten die succesvol waren, waar er samenwerkt werd met mensen van verschillende afdelingen?

3. Zijn er binnen de gemeente andere teams die samenwerken aan integrale onderwerpen/global goals?

4. Wat voor een systematische benadering voor samenwerking tussen verschillende functies binnen de gemeente wordt er gebruikt?

5. Wat zijn voorbeelden van enkele methoden die worden gebruikt om met verschillende afdelingen samen te werken?

6. Wie zijn er betrokken bij het samenwerken aan integrale onderwerpen (zoals de SDGs)? (intern en extern)

6.1. Heeft uw gemeente een bijzondere coördinator bij het werken op integraal niveau en wat zijn zijn/haar taken?

7. Wat denken uw medewerkers/collega's over de integrale aanpak/(van) SDG's?

8. Wat zijn enkele uitdagingen bij het samenwerken met collega's van verschillende afdelingen (aan SDG's of een integraal onderwerp)?
8.1. Hoe worden deze uitdagingen opgelost wanneer er meerdere afdelingen bij betrokken zijn?
8.2. Hoe zou volgens u de samenwerking tussen afdelingen verder kunnen worden verbeterd? Wat is hiervoor nodig?

9. Kunt u het ideaalbeeld van integrale samenwerking in uw organisatie omschrijven en hoe dit volgens u momenteel nog kan verbeteren?

Appendix B

1st order concepts	2nd order themes	Aggregated dimensions

- Departments don't communicate
- Departments are seen as silos
- Not knowing colleagues

→ Collaboration complications

- A project based working approach
- Team with members from different departments
- Stakeholders involved

→ "Challenges-based"

Integral collaboration

- Difficult to understand the SDGs due to interconnectivity
- Unaware of using SDGs in current policy
- International terms for local issues

→ Difficult to understand

- Time pressure due to fast changing environment
- Political agenda
- Sense of not enough time to work with SDGs

→ Pressure

Factors influencing SDG implementation