

# Limiting amount of information can increase chances for successful collaboration

Network pictures in the procurement of innovation context

Based on the case study in the City of Amsterdam CTO Innovation Team

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## PREFACE

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# 1 INTRODUCTION

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Public procurement in the European Union is an important part of interaction between governments and the market. According to the European Commission<sup>1</sup> every year over 250 000 public authorities in the EU spend around 14% of GDP (around €2 trillion per year) on the purchase of services, works and supplies. Often perceived as a purely bureaucratic process, it is in fact one of the key procedures to shape the quality of the public spending.

Public spending in question addresses wide range of the problems including metropolitan challenges of the modern world. As the local and national governments approach key issues such as climate change, public health, or transition towards zero-emission economy, they need to do it accordingly with the public procurement regulations. There are always exceptions possible but overall and on bigger scale it is not possible to avoid them. Having said that, public procurement with all its own challenges is one of the key elements of public policy creation and implementation.

From the author's own working experience, challenges of public procurement include a wide range of issues from personal relations, procedural and financial requirements to sourcing knowledge and information necessary for describing the procured services, works or supplies. This experience showed also that certain people working in the field of procurement are more successful than others although they must follow the same set of rules as the rest of the organisation. This observation sparked interest which resulted in this thesis.

The main aim of the research was to examine the civil servants engaged in the procurement of innovation and uncover their views and values to understand how they perceive their surroundings, what they are focused on and in what manner they approach their network. What is important, the studied team deals with wicked problems which cannot be accounted for and planned for in advance. In such problems there is no clear solution to be purchased while there is a sense of urgency. Limited planning possibilities serve as an accelerator for more thoughtful use of procedures and laws governing the public procurement. There are various ways this situation influences the relation between buyers and suppliers.

In the classical take on the network analysis there would be a need to engage with multiple actors in the network of the studied group to map the existence of the links in the network and uncover their characteristics. This way it would be possible to see the individuals engaged in the process through their position in the network as described by other actors. In this study, however, a different approach was used using network pictures' method which concentrates on individual perception of the network extracted from the semi-structured individual interview. In this way the study results in a picture containing an array of network characteristics, keeping focus on the individual's perspective. This individual perspective can then be compared and generalized into a network picture shared by the group.

The case under research is embedded in the City of Amsterdam's Chief Technological Officer's Innovation Team. Members of the studied team oversee certain innovation projects in

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<sup>1</sup> [https://ec.europa.eu/growth/single-market/public-procurement\\_en](https://ec.europa.eu/growth/single-market/public-procurement_en) (accessed 3/1/2021)

procurement and the Startup in Residence programme<sup>2</sup>. Work of the team can be qualified as procurement of innovation which is a part of public procurement.

This study found a few most important characteristics that can serve as an inspiration for making public procurement more successful in finding right actors to supply solutions to the wicked problems. They can also be effective in sustaining long-lasting impact of the government activities on society, market, and environment. These characteristics of the network gatekeepers in procurement of innovation are that they are focused on surroundings and they adjust amount of information to build collaborative relations with other actors.

This thesis consists of theoretical framework, research methods overview, results and conclusion which describe in detail the research undertaken by the author.

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<sup>2</sup> Startup in Residence Amsterdam - an initiative of Startup Amsterdam and the Chief Technology Officer (CTO) of the City of Amsterdam, modelled on a similar programme in San Francisco (Source: <https://startupinresidence.com/amsterdam/programme/>, accessed on 6/12/2020)

## 2 THEORETICAL FRAMEWORK

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Wicked problems are the ones that are usually the most complex issues available. They need discussion and agreement, like for example climate change or pandemic health crisis. It is not only the special circumstances that make these issues challenging but specific mix between fluctuating problem definition and the adequate response which must change and adapt as well. In the following parts, notions of wicked problems and governmental response to them will be problematized with the use of the peer reviewed academic literature. After describing the relation between government and wicked problems, the concepts of public procurement of innovation and network gatekeeping will be introduced to establish research niche of this thesis. In the end the research questions will be presented.

### 2.1 GOVERNMENT AND WICKED PROBLEMS

To understand context in which public procurement and procurement of innovation are embedded it is necessary to introduce relation between government and wicked problems first. Both terms serve as an umbrella for broader sets of phenomena. Government is “the political system by which a country or community is administered and regulated”<sup>3</sup>. Wicked problems are ones that are dynamic and understanding of them changes over time.

In everyday work government employees and officials are dealing with a variety of challenges. The way government works demands bureaucracy and procedures for sake of accountability and transparency. Government consists of numerous institutions, from ones setting and executing policy, like ministries, to specialist institutes dedicated to understanding very specific issues, like for example health institutes or the ones dealing with safety at work. In the past this approach worked well but since 1970s understanding of what problems are was extended. As famously noted by Rittel and Webber (1977): “as distinguished from problems in natural sciences [...] the problems of governmental planning – and especially those of social and policy planning – are ill-defined and they rely upon elusive political judgement for resolution” (p. 160).

Knowing that, process of understanding problem and its potential solutions becomes highly subjective. Not only wicked problems themselves are hard to define but so are the responses in terms of government policy. McConnell (2018) points out that beyond the political “how” of the problem there is also a reputation to protect, control of the policy agenda to be maintained and forging government ideological/governing trajectory to be considered. In this sense, wickedness of the problem influences every aspect of government response even before it is being prepared.

But what is exactly wickedness of the problem? De Bruijn and ten Heuvelhof noted that “problems are unstructured, or wicked, if: the facts needed to enable a good decision to be reached are ambiguous rather than clear-cut; and the normative considerations that must be weighed in order to reach a good decision cannot be objective.” (2018, p. 7). This creates a new situation in which governmental powers can be divided only to a certain extent, and reshuffles classical notions of policy initiation, execution, and control. This applies to all means of government including procurement, which is one of the most powerful ways governments can interact with the parties outside of its own organization (source). This is especially important in

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<sup>3</sup> <https://www.britannica.com/topic/government> (accessed on 16/1/2020)

the European Union (EU) where public procurement is regulated on European level and can be defined as “the process by which public authorities, such as government departments or local authorities, purchase work, goods or services from companies”<sup>4</sup>

Wicked problems are affecting public procurement especially in terms of the ability of governments to define work, goods, or services in demand. This means that the general rules applying to creating the definition of a tender, timeline for delivery and rules for grading the offers are created each time from scratch because there are limited references which can be used. This new branch of public procurement called public procurement of innovation is an interesting example of a challenge to the classical bureaucratic and procedural approach to governance of technology and innovation.

## 2.2 PUBLIC PROCUREMENT

Mostly recognized goal of the public procurement is “obtaining goods, works or services on the best terms” (Arrowsmith 2010, p. 150). Nevertheless, there are multiple other goals achieved with the use of public procurement: the horizontal policies promoting objectives of an economic, environmental, and social nature (Arrowsmith 2010). Context of these policies connects well to overall differences between public and private procurement summarized by Mamavi et al. (2014) and presented in Table 1.

	<i>Public procurement</i>	<i>Private procurement</i>
<i>Procurement goals</i>	Provide a regulatory framework to guarantee competition.  Optimize allocation of public resources.  Attain socioeconomic objectives to support government policy	Provide a return on investment.  Maximize profits.  Consolidate a sustainable competitive advantage
<i>Nature of relationship between customer and supplier</i>	Relationships based on bidding among competing suppliers in auctions (calls for tenders)	Relationships based on close collaboration or partnership with a few preferred suppliers

*Table 1 Public vs private procurement as summarized by Mamavi et al. (2014)*

In case of private procurement reaching socioeconomic goals is only relevant if it contributes to competitive advantage or return on investment. In case of public procurement horizontal policies are an integral part of the process alongside making sure that public resources are distributed responsibly and, in a manner, guaranteeing competition.

<sup>4</sup> European Commission [https://ec.europa.eu/growth/single-market/public-procurement\\_en](https://ec.europa.eu/growth/single-market/public-procurement_en)



Competition in terms of public procurement means that every eligible party can freely and fairly bid in a public tender. In the European Union it means equal access to information about public tenders, clear conditions of entry and expectations for the product, service, or goods in question. Overall goal is to supply level playing field which will support an efficient use of public resources and at the same time to support goals of social and economic policies which differ depending on the level of government (European, national, regional, local). Examples of goods or services in question include promotion of circular economy or support of bio-based products.

Procurement is one of the tools at the disposal of the government to engage with a diverse range of parties in the search for new methods and approaches to foster innovation in products or processes (REF). It also leads to establishment of new branches of procurement such as procurement of innovation which will be described in the next part.

## 2.3 PUBLIC PROCUREMENT OF INNOVATION

Before elaborating on the concept of the procurement of innovation it is important to state which definition of innovation is used. There are multiple interpretations of what innovation is, ranging from process to product innovation, creation to adoption and newness to change. In 2009 Baragheh, Rowley and Sambrook analysed multiple approaches to defining innovation and produced a definition which characteristics are divided into stages, social aspect, means, nature, type and aim of innovation. This approach prioritises flexibility over strictness of definitions at the same time giving guidance on what their characteristics could be. Characteristics of innovation are presented in Table 2.

*Dimensions of innovation process elements*

<i>Stages</i>	Creation – Generation – Implementation –Development – Adoption
<i>Social</i>	Organizations – Firms – Customers – Social systems – Employees – Developers
<i>Means</i>	Technology – Ideas – Inventions – Creativity – Market
<i>Nature</i>	New – Improve – Change
<i>Type</i>	Product – Service – Process – Technical
<i>Aim</i>	Succeed – Differentiate – Compete

*Table 2 Definition of innovation as defined by Baragheh, Rowley and Sambrook (2009)*

What is visible in Table 2 is that innovation represents wide array of characteristics which in addition have tendency to change and adapt over time. As ideas grow, become tested and implemented, so do change actors engaged and so do means by which innovation is introduced.

But how to deal with it with public money and resources engaged? There is a need for transparent and efficient processes which will not jeopardize innovative potential. In the end it is innovation which is supposed to bring breakthrough and help realize government agenda reflecting broader societal needs. This is where public procurement of innovation can and should be applied.

Procurement of innovation follows the general guidelines of public procurement, but the content of the tenders concentrates on triggering an innovation and therefore the outcome is open and cannot be predefined beforehand. Edler and Yeow (2016) note that “triggering an innovation through procurement means that public organisations [...] need to be able to approach the marketplace and to interact with potential producers in a way that stirs market interest” (p. 418) This observation allows us not only to count potential producers in, but also to look at the quality and quantity of interactions between public organizations and explore implications of these behaviours and bounds on the public procurement of innovation.

In the case of the City of Amsterdam one of a such ways to connect is Startup in Residence programme which was initiated in 2015 as a manner of connecting companies with the public servants responsible for purchases. The concept of government-related intermediaries in Public Procurement of Innovation (PPI) can be defined as “the purchase of a solution that is novel to the buying organisation in order to serve an organisational need” (Edler and Yeow, 2016, p. 415). PPI can lead to the generation of a new solution or first-time adoption of the solution by the buying organisation.

Given the role of public organizations in initiating and incentivizing relations in the network, an important question arises about the exact dynamics of this process. Who and how steers, manages, and oversees PPI? To bring more understanding of the circulations and flows of PPI, the concept of gatekeeping will be explored to highlight challenges and opportunities arising from public organizations performing control over information in the context of ongoing innovations.

Network gatekeeping is interesting in this context because it aligns with a governmental need for understanding the mechanisms which rule the innovation process. By understanding network gatekeeping in the context of PPI it is possible to perform planning and oversight and ensuring accountability and transparency which is a prerequisite for government to perform its functions efficiently and responsibly. Before the concepts of gatekeeping and network gatekeeping are connected in more detail to PPI, both concepts will be explained in detail.

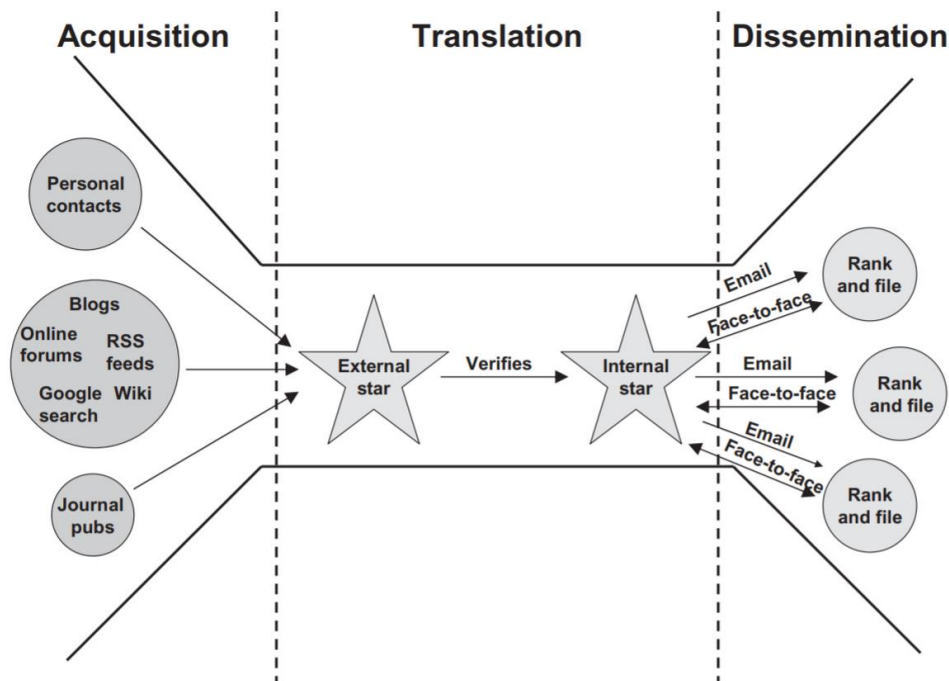
## **2.4 GATEKEEPING**

As characterized by de Bruijn and ten Heuvelhof (2008) and presented in Table 3, interconnected world leaves behind hierarchy and stability in favour of interdependencies and dynamics, which are deemed necessary to face contemporary issues in procurement (for innovation).

Interdependencies	Hierarchy
Unstructured ‘wicked’ problems	Structured problems
Dynamics	Stability

*Table 3 Main characteristics of the interconnected world (de Bruijn and ten Heuvelhof, 2008)*

With so many changing variables, is it possible to capture and name the processes by which interconnected world is shaped? To some extent, yes, and this can be done by looking closer at the process of gatekeeping which is “the process by which the billions of messages that are available in the world get cut down and transformed into the hundreds of messages that reach a given person on a given day” (Shoemaker 1991, p. 1). According to Whelan et al. (2013), there are three stages of gatekeeping: acquisition, translation, and dissemination. They connect to the existence of so-called “stars” who are the actors in network with significantly higher number of connections than others.



*Figure 1 The updated gatekeeper conceptual framework according to Whelan et al. (2013)*

As presented in Figure 1, acquisition of information from outside of the organisation can be done by means of personal contacts, journal (academic and professional) publications and any other applicable form of information storage (for example Wikis or search engine query). These outside sources are used by external stars who verify their relevance and pass them on to internal stars. From that moment on the dissemination process is started by use of email and face-to-face contact. In this process, information is passed to ordinary members of the organization (“rank and file”). In this traditional structure of gatekeeping there are stable flows of information with

repetition of knowledge acquisition and dissemination dependent on existence of external and internal stars in the network.

Whelan (2013) pointed out that a difference between external and internal communication stars is in the way they obtain information and what they do next with it. For external stars it is mostly their own analytical skills that help them obtain information, but they are also engaged with other actors to always be informed about new developments in their fields of interest. On the other hand, internal stars concentrate more on passing on knowledge to others and these interactions are the primary source of their knowledge. Table 4 shows differences in skills, motivations and preferred media of external and internal stars but also highlights the new role of gatekeeper who is a person who always is balancing between these two extremes of being outside and inside organization.

	<i>Key skills</i>	<i>Motivation/ attitudes</i>	<i>Preferred media</i>
<i>External Communication Stars</i>	Ability to acquire relevant information of external technological developments.	Genuine interest in keeping abreast of emerging trends in their specialty.	Predominantly Web-based, e.g. online communities, wiki, blog, RSS feeds, Google
	Narrow and deep knowledge base, usually a PhD holder.	Primarily acquire information for own use but lack the skills to disseminate effectively.	
	Strong analytical skills.		
<i>Internal Communication Star</i>	Ability to translate external information into a form understandable and relevant to internal colleagues.	Enjoy helping others. Develop their own knowledge from these interactions.	Email and face-to-face interactions
	Wider knowledge base, which facilitates understanding the context of new information and how it fits with extant knowledge.	Expect reciprocation.	
<i>Gatekeepers</i>	Display both depth of knowledge of external communication star and breadth of knowledge of internal communication star.	May acquire information for their own use but also transmit it to others.	External – both Web-based and face-to-face interactions.
	Highly sociable with very good networking skills enabling them to develop extensive internal and external networks.	Enjoy helping others	
			Internal – email and face-to-face interactions.

*Table 4 Summary table of those performing the gatekeeping role based on research by Whelan et al. (2013)*

Whelan et al. note that “specific attention should be given to establishing connections between the external stars and the internal stars of a particular grouping. This study finds that it is primarily through these particular connections that valuable external information becomes “integrated into the firm.” (2013, p. 213) In their understanding of the situation there is always

need for existence of at least one external and internal star to integrate knowledge into organization. However, if we look at the characteristics created by the authors these roles can merge in one of gatekeeper. This creates interesting tension, which connects to the concept of wicked problems introduced in the beginning. For public procurement of innovation being part of interconnected world is prerequisite of any meaningful action.

Context of network changing character of gatekeeping is also one of the arguments behind Barzilai-Nahon's (2008) attempt to establish an independent category of network gatekeeping. In the next part the concept of network gatekeeping and how it differs from its traditional counterpart will be introduced.

## **2.5 NETWORK GATEKEEPING**

In her review of vocabulary, definitions, and concepts behind gatekeeping Barzilai-Nahon (2008) highlights challenges posed to the traditional understanding of gatekeeping by the context of the network. She argues for a more flexible understanding of information control "allowing inclusion of more types of information handling that have occurred before and new types which occur due to networks" (p. 1495) as opposed to traditional terms of information selection, distribution, protection, and information intermediary. This approach aligns with actor-network theory which in words of Bosco (2006) encourages us not to "think about hierarchies or categories, but rather think about constant circulations and flows" (p. 139).

Traditional gatekeeping and network gatekeeping are both having information exchange as their bases, but as can be seen in the Table 5 there are differences in setup of the information flows and more significantly how the control over information is performed. The most important is a more inclusive definition. Instead of selection, intermediation, dissemination, and preservation of culture network gatekeeping is interested in any process of information control which occurs in the context of the network. Focus is shifted from individuals to the institutional actors. In network gatekeeping, gated can also have political power and produce information. This update to traditional notion of gatekeeping is what makes it so relevant in the context of procurement of innovation. It allows to capture wide range of dynamics in the highly interconnected world where hierarchy is no longer the only existing type of relation.

	<i>Traditional gatekeeping</i>	<i>Network gatekeeping</i>
<i>Gate (the passage points)</i>	One-to-few number and types of gates	Few-to-many number and types of gates
<i>Gatekeeping (the process)</i>	Primarily a process of: <ul style="list-style-type: none"> <li>- selection (communication),</li> <li>- intermediation (management),</li> <li>- dissemination and preservation of culture (Information Science).</li> </ul>	A more inclusive definition which encompasses any process of information control
<i>Gated (on whom gatekeeping is exercised)</i>	No vocabulary in the literature	Network gatekeeping identification recognizes the role of those subjected to gatekeeping.
<i>Gatekeeping mechanism (the means used to carry out gatekeeping)</i>	Primarily a manual process	Network gatekeeping salience presents the dynamism of gated types.
<i>Gatekeeper (who performs gatekeeping)</i>	Individuals	Due to information volume, procedures become more automated  Focus shifts to institutional actors. Two dimensions are suggested: authority and functional gatekeepers.

*Table 5 Traditional vs network gatekeeping as defined by Barzilai-Nahon (2008)*

As mentioned before, the reason behind using the network approach is not solely to understand the setup of the network and its potential implications but to uncover dynamics of the network that helps or hinders procurement of innovation as well. That is why there is a need for deeper understanding of network gatekeeping by using the concept of network gatekeeping salience. Salience, or in other words prominence, is a concept which helps to theorize the relationship between the gated and the gatekeeper. In the words of Barzilai-Nahon (2008) “salience refers to the degree to which gatekeepers give priority to competing gated claims” (p. 1493) and determines which information flows from outside the organization to the decision makers and other members of the organization.

<i>Gatekeeping salience</i>	<i>Traditional gatekeeping</i>	<i>Network gatekeeping</i>
<i>Relationship (gated-gatekeeper)</i>	Relations of sender-receiver; the gatekeeper is the sender.	Continuity modes of relationships between no relations or indirect relations (sender-receiver mode) and through frequent, enduring, and direct exchange.
<i>Information production (of gated)</i>	Notion of source-destination; the gatekeeper is the source.  Only gatekeepers produce information freely.	Association between source-destination and gatekeeper-gated positions are interchangeable.  Gated also may produce information.
<i>Alternatives (for gated)</i>	Scant-no alternatives to gatekeeping.	Circumventions of gatekeepers and gatekeeping mechanisms exist.
<i>Political power (in relation to the gatekeeper)</i>	Gatekeeper has most of the political power.	Gated may also have political power.

*Table 6 Network gatekeeping salience as defined by Barzilai-Nabon (2008)*

As shown in the Table 6, there is major difference in salience between traditional and network gatekeeping. In general, what can be observed in the network gatekeeping is a movement towards less structured setup in which flows of information are not hierarchical, roles of gatekeeper and gated might switch and frequent and direct exchange becomes the base of the relations. This reflects situation in which procurement of innovation operates with multiple dependencies and wicked problems as main reason for the very existence of this special procedure.

As noted, gatekeeping is the state in which external and internal capabilities come together. The gatekeeper's individual position in the organization influences final interplay between the government and innovation. Since every network for every wicked problem is different, so will be the context for gatekeepers' operations in public procurement of innovation. To understand their unique positions, it is proposed to use network pictures theory as a research method to understand what the individual network's perceptions that gatekeepers hold are. Are there differences and similarities between them? What are the characteristics of their shared network's perception?

Individuals in procurement of innovation each day make dozens of decisions regarding their activities. With whom will they work? How will they organize the cooperation? Will there be cooperation at all? These and other questions can in theory be answered by advanced planning and strategizing process.

However, with every strategy and even the most discussed tactics there is always a certain degree of freedom enjoyed by each team member. When people serve as the network gatekeepers this area of independence and self-reliance grows even more. Additionally, it fluctuates over time according to the adjustments in the network structure, dynamics, and contents. There is no strategy which can plan for that in a reliable way beside looking into

individuals' values, way of working and views they hold and will uphold when being part of the network activities.

The classic network research approach would entail using a survey resulting in the overall ("helicopter") view of the network from which various conclusions would be drawn regarding each member of the network together with their roles, relations, and activities. The alternative network research approaches answer the following question: is there a way to know how the network gatekeepers will work without gathering that information and instead by focusing on individual characteristics and consequences they have for the network? This research falls within the second category, where the network picture is based on analysis of individual network actors rather than the network itself.

To capture the individual's perception of the network one needs to find a method allowing to examine their activities (e.g., decisions) and generalize them into types and subtypes of views and behaviours. Doing so enables us to answer the following research questions:

**What are the shared characteristics of the network gatekeeper's network pictures?**

- a. How do they see their surroundings?**
- b. What are they focused on?**
- c. How do they approach their network?**

To answer these questions there is a need for a case-based study in the procurement of innovation team with each of the individuals serving as a network gatekeeper. This research focuses on one of the teams at the City of Amsterdam's Chief Technological Officer's Innovation Team (CTO Innovatie Team).



## 3 METHODS

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### 3.1 LITERATURE REVIEW

The theoretical framework presented in the previous part is the result of a literature review based on peer-reviewed scientific articles. Starting with the notion of open innovation, the review followed with topics of collaborative innovation, stakeholder management and definition of innovation as such. After that, the author explored the public procurement and innovation from perspectives of knowledge base, geographical proximity, econometric analysis, and interaction modes.

In parallel, exploring the notion of individuals having a vital role in the definition of the innovation challenges led to the term of network gatekeeping and information control. After linking these concepts with the realms of public procurement of innovation it was time to step back to look at the context in which they exist.

The context of the procurement of innovation was explored through lenses of wicked problems in public policy and reframing them as both policy and political problems. With additional knowledge of horizontal policies as devices linking societal goals with their execution by the government, it was possible to present concepts of wicked problems, procurement of innovation and network gatekeeping as intertwined and interdependent phenomena.

### 3.2 INTRODUCTION TO THE CASE

The case under research is embedded in the City of Amsterdam's Chief Technological Officer's Innovation Team. Members of the studied team oversee certain innovation projects in procurement and Startup in Residence programme<sup>5</sup>. Their work can be qualified as part of procurement of innovation. Each annual edition highlights certain wicked problems, which are presented in the form of public challenges. CTO Innovation Team can be characterised as a good case for the study because it operates in the boundaries of public sector, is governed by laws of public procurement, and has goals and networks aligned with the innovation ecosystem of Amsterdam, the Netherlands and in some cases even the EU region. In addition, CTO Innovation Team is organized with a minimum of the hierarchy when it comes to cooperation between employees while maintaining certain governance structure which includes division into the sub teams.

Basic information about the case is based on the author's own insights as Graduate Research Intern from January to July 2020 as well as the work of van Winden and Carvalho (2019). In their research they focused on exploring public procurement of innovation with Startup in Residence Amsterdam case study. Their understanding of public procurement of innovation connects to the term of intermediation. Given the fact that network gatekeeping is an extension of intermediation concept it was possible to use directly information provided by the authors of the abovementioned academic paper.

The setup of the network, as concluded by van Winden and Carvalho, suggests that the startups function as "gated" and Startup in Residence and City of Amsterdam departments as

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<sup>5</sup> Startup in Residence Amsterdam - an initiative of Startup Amsterdam and the Chief Technology Office (CTO) of the City of Amsterdam, modelled on a similar programme in San Francisco (Source: <https://startupinresidence.com/amsterdam/programme/>, accessed on 6/12/2020)

“gatekeepers”. The second conclusion is also supported by the fact that Startup in Residence programme fulfils the typical characteristics of network gatekeeping, as outlined by Barzilai-Nahon (2008):

- being an entity (people, organizations, or governments),
- discretion to exercise gatekeeping,
- exercising network gatekeeping through specific organizational mechanism such as procedures,
- choice over the extent to which to exercise its contingent upon the gated.

Table 7 explores a couple of examples from the Startup in Residence case study (van Winden and Carvalho, 2019) as fulfilment of Barizali-Nahon’s (2008) network salience characteristics. This serves as proof of connection between the network gatekeeping concept and the group under study. It also allows for a direct application of the theoretical framework developed in the earlier part of this work.

	<i>Network gatekeeping salience (Barzilai-Nahon, 2008)</i>	<i>Startup in Residence (SiR) Amsterdam (van Winden and Carvalho, 2019)</i>
<i>Relationship (gated-gatekeeper)</i>	Continuity modes of relationships between no relations or indirect relations (sender-receiver mode) and through frequent, enduring, and direct exchange.	“Intermediation involved bridging between mindset differences to deal with the many tensions and dissonances that emerged along the way. In some cases, issues were solved through direct dialogue between department and startup” (page 8)
<i>Information production (of gated)</i>	Association between source-destination and gatekeeper-gated positions are interchangeable.  Gated also may produce information.	“At the same time, SiR team and the CTO office kept brokering and negotiating within and outside the Municipality. For example, beyond “regular” city challenges, SiR opened a “wild card” slot (in 2016) for startups proposing to solve a challenge for an issue not initially considered.” (page 7)
<i>Alternatives (for gated)</i>	Circumventions of gatekeepers and gatekeeping mechanisms exists.	“In other cases, startups felt “abandoned” by the department, namely as it was not clear who the project owner was and the department’s commitment to co-development proved limited. In these cases, intermediaries (SiR, mentors) actually replaced the department in the conversation influencing the innovation direction.” (page 8)

<i>Political power (in relation to the gatekeeper)</i>	Gated may also have political power. (independent variable in gated–gatekeeper relationships)	“This included the development of promotional materials that would “speak the language” of startups, fully devoid of unnecessary detail, resembling the communication of regular incubation and acceleration programmes” (page 6)
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*Table 7 Network gatekeeping salience identification in the case of City of Amsterdam’s Startup in Residence team*

In the case of Startup in Residence, the role of the gatekeeper is most often (but not solely) performed by the programme organizers – the members of CTO Innovation Team. This can be concluded by noting that in their activities they:

- act in their personal role as government employees and as representatives of the CTO team (both internally and externally),
- function as main decision maker during challenge definition process and during the whole programme,
- perform gatekeeping through a mechanism which is the programme itself, with its structure of challenge definition, startup recruitment, workshop and trainings, pilot funding and execution, contracts examples and mentoring,
- can decide on changes in the department-startup coupling, can pull extra resources into the pilot, and have access to the network of the City of Amsterdam and beyond.

Participants of the study are part of one team known embedded in the bigger CTO Innovation Team. Studied group consists of six people having who have the same supervisor, take part in the team’s communication channels, and meet once a week to discuss their progress and challenges. Each of the participants is connected to the procurement of innovation and acting as gatekeepers internally and externally.

### **3.3 INTRODUCTION TO THE NETWORK PICTURES METHOD**

The literature review brought answers to the ordinary questions of what the connection between wicked problems, public procurement of innovation and network gatekeepers is. Although in theory we know how network gatekeepers operate, a question remains how to make connection between this knowledge and Startup in Residence team case. The general framework for connecting the theoretical network description with its real-life realisation was introduced in 2002 by Ford et al. by means of the so-called network pictures method.

Network pictures are “views of the network held by participants in that network<sup>6</sup>” (Ford et al., 2002). As pointed out by the authors, these views serve as base not only for analysis but also for the actions taken by members of the network. This conclusion is particularly important for understanding the transition between theoretical framework presented earlier and the actual

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<sup>6</sup> Please note that – in line with this definition – the word “pictures” does not refer to actual pictures, but more generally to how the network members perceive the network they operate in.

research method chosen by the author. It is the network gatekeeper's perception of their network and their personal characteristics that we are missing to foresee shape and form of actions taken during the public procurement of the innovation.

Knowledge of network gatekeepers' own perception of the network – their network picture – gives us unseen opportunities to understand directions of each procurement decision of innovation process regardless of the network setup. The network pictures, when researched amongst multiple network members, might offer us more human and interaction-based insights on the whole network as such. That is because the network picture method changes focus from the usual content of the network discussion such as actor names, activities, descriptions of reality or ideas to those who shape that content. This way we achieve two things: as researchers we are less dependent on the content of the researched network, and the results of our study could potentially be easier absorbed by the research subjects themselves. So how exactly does the network picture method work?

In 2011, Ramos and Ford developed a new research method identifying the dimensions capturing individual views of surroundings. According to their analysis, there are three basic elements of the network pictures (Ramos and Ford, 2011):

- scale and structure,
  - o “The scale of a network is defined by the number of actors an individual identifies in his/her surrounding network. An actor can only consider a limited number of these players” (p. 449)
  - o “The structure or constitution of the network is defined by the nature of the actors and resources that the individual sees” (p. 449)
- processes,
  - o “The processes of the network are about the relationships that take place between the interacting actors: the network actor bonds, resource ties and activity links, or substance of relationships” (p. 449)
- and personal positioning
  - o “The position a particular actor occupies in the network may be determined by that actor's surrounding and co-existing web of actors, resource constellation and activity patterns and by the actor bonds, activity links and resource ties in which that particular actor is involved in.” (p.450)

On a more detailed level, the elements of network pictures can be divided further into several dimensions. Complete overview of dimensions and elements of network pictures forms the codebook which was one of the results of the study performed by Ramos and Ford in 2011 (for the full codebook, see Appendix 2). Ramos and Ford identified as many as 46 such dimensions and divided them into four thematical groups, i.e., focus, weight, specificity/coherence, and overall view of surroundings.

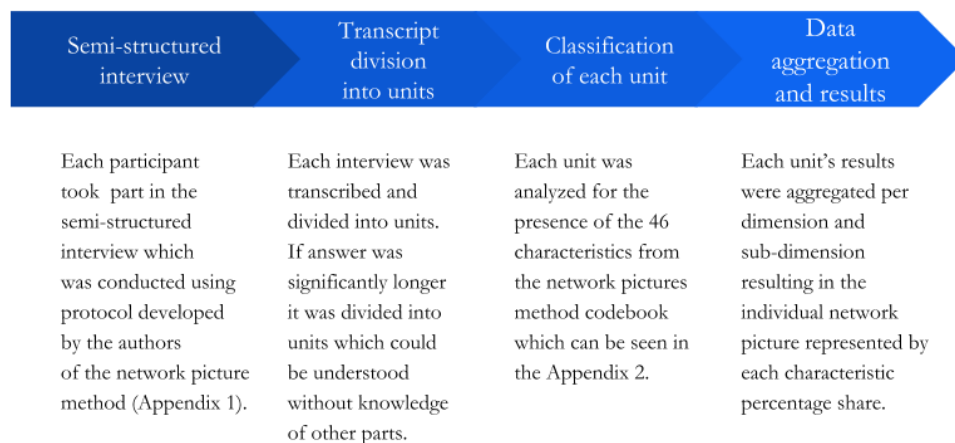
In the framework of Ramos and Ford (followed by the author) the researchers interact with the network participants by means of semi-structured interviews. Analysis of transcripts of these interviews with use of the codebook helps identifying the dimensions characterizing each network participant. After such identification of all dimensions occurring in the interview, the researcher can determine which dimensions occur the most frequently. These most frequent dimensions describe the network picture of the network participant.

Having analysed the network pictures of all participants separately, the researcher can identify an average network picture by aggregating data on the level of the team. Precise procedure behind data collection and analysis is described in the following part.

### 3.4 DATA COLLECTION AND ANALYSIS

The semi-structured interviews were held in July and August 2020 with use of video calls and screen sharing. For each interview, the same interview protocol was applied. Each interview was recorded, transcribed, and redacted by the author. The transcript served as a base for coding the interviews.

Each interview has three distinct levels of code occurrences. There are two reasons for that. The first one is the need for division into units for analysis purposes. Unit division reflects train of thought of the respondent but is also dependent on the interview structure itself. Each unit was classified using 46 codes for all units with combination of the codes not decided in advance. Summary of the process is presented in Figure 2.



*Figure 2 Steps in the process of data collection and aggregation*

### 3.5 AVERAGE AND SHARED GATEKEEPERS' NETWORK PICTURE

To ensure comparability between the interviews, each number of code occurrences was weighted against overall number of all code occurrences in the interview. This resulted in analysis of the percentage share of the code per interview rather than then the notional number of occurrences. Such normalization solved the issue of comparing interviews with varying lengths and allowed for creation of the average gatekeepers' network picture.

Shared gatekeepers' network picture is a result of analysis of both numerical results and relations between them and other codes in each group.

### 3.6 PARTICIPANTS REACTION TO THE STUDY RESULTS

As a final stage of data collection, participants were presented with results in form of the online survey. Primary interest of the survey was to understand what the possible functions are of perceiving their network in the way the results suggest. Survey structure can be found in Appendix 5.

### **3.7 RELIABILITY**

During the analysis of one of the interviews the author realized that there is a different orientation of respondent activities as compared with the rest of the sample. This respondent's work was at the time more oriented inwards the City of Amsterdam which was manifested by a higher frequency of the concentration on the company and significantly lower concentration on the surroundings. In addition, the network picture presented by the respondent suggests being gated as more dominant than being a gatekeeper.

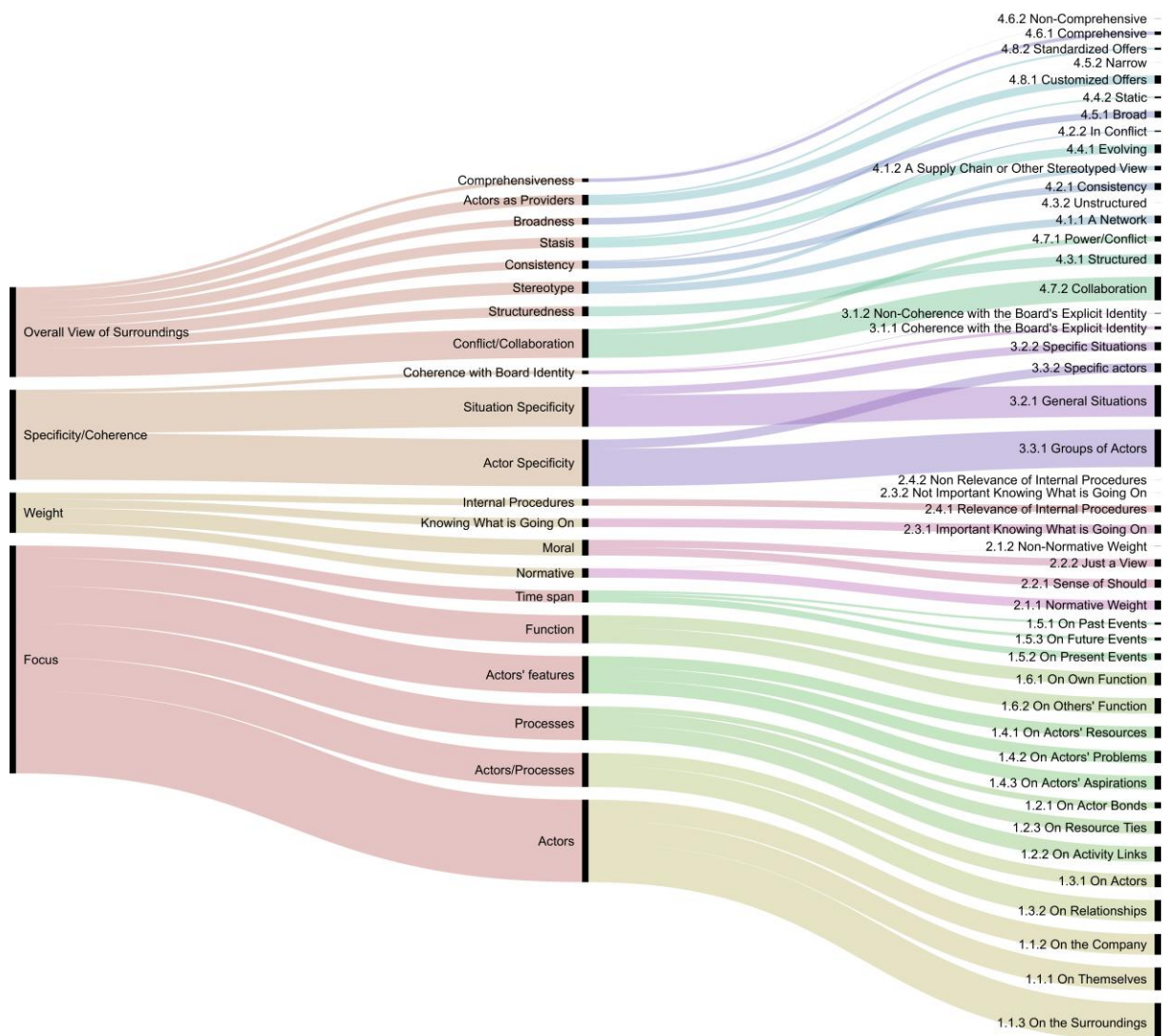
Given that the interest of the study is the network picture of the gatekeepers and not the gated, the arguments above were the base for excluding respondent 2 from the analysis. Therefore, all the presented results for the group are based on the 5 individual interviews instead of the original 6.

## 4 RESULTS

The main question of the study is aimed at understanding what are the shared network's perceptions that gatekeepers in procurement of innovation hold. Main points of interest are their perception of the surroundings, focus and way of approaching the network. By capturing the network picture shared by the group it was possible to discover what are the most important elements according to their perception, concepts they use in everyday work and the way they approach others.

Presentation of the full results will be followed by division into four groups of codes mentioned above. category will be accompanied by reactions of the participants to the results and examples which will help to deepen understanding of what forms shared gatekeepers' network picture can have.

### 4.1 AVERAGE NETWORK PICTURE



*Figure 3 Average network picture shared by the participants of the study.*

Figure 3 presents average network picture of the studied group. It is a comprehensive and quick way to understand studied group. It shows not only the dominant characteristics but

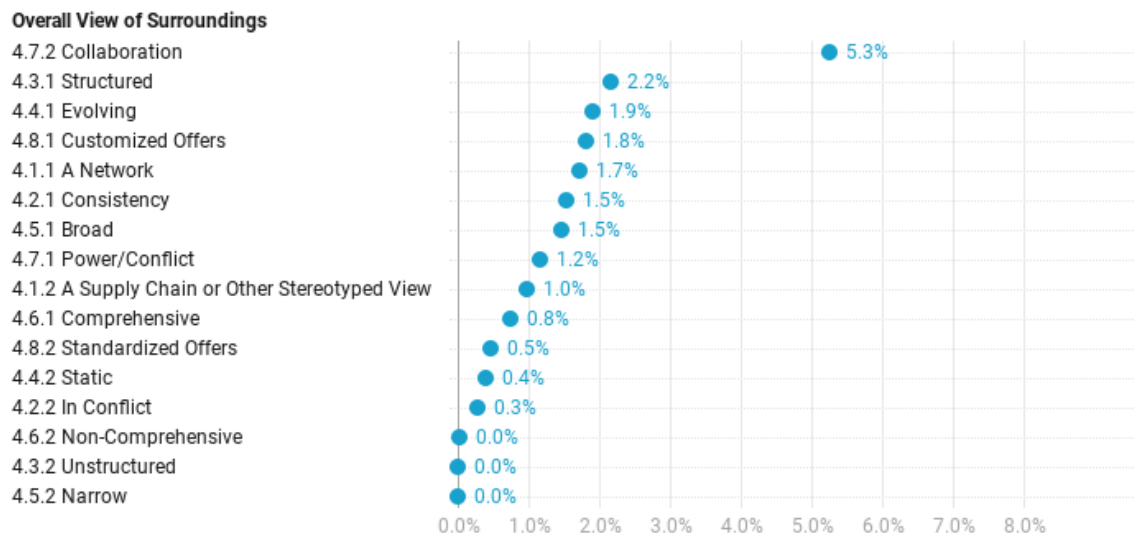
also their alternatives. This way results are almost immediately ready for analysis and commented on. Beside each code affiliation within the groups of codes, there are two types of information which are available to us.

The first one is which of the codes are the most prominent in the context of the whole picture. This information is represented by the width of the bands. This points to collaboration, general situations, groups of actors, relationships, and actors in general (company, themselves and surroundings) being the focus of the participants network picture. The second type of information is the relation to other characteristics in the group. For example, collaboration is visibly more present than power/conflict in the way the study participants perceive their surroundings.

In following parts each of the main groups – overall view of surroundings, specificity/coherence, weight and focus – will be explained by applying balance between overall dominance of the code and its relationship with other codes in the group. In other words, in order to consider a characteristics a shared characteristics, it needs to be prominent overall and in the context of the group. In addition, reaction of the participants will be used to uncover functions of particular perceptions of the network. This will allow for transformation of the average network picture into a shared network picture which will be a selection of the characteristics presented above.

## 4.2 OVERALL VIEW OF THE SURROUNDINGS

Overall, the view of surroundings is structured more as a binary choice. It is either network or supply chain, consistency or conflict, structured or unstructured. This has huge influence on the results as seen in Figure 4. Where in the focus thematical group we have seen more of a range of codes, in the overall view of surroundings we see clear dominant code – collaboration.



*Figure 4 Results from the group overall view of surroundings.*

Collaboration is an interesting category. Although it is dominant for the whole group, it was explained by the participants in a broad range of ways. For some of the participants collaboration allows for “not always same people speaking up”. For others it has function of



“giving people ownership”, “getting things done together”. For some it is a mean “to improve things”. It is not a surprise that collaboration is dependent on the ones who are collaborating and thus changes based on the network setup. What is interesting, though, is that even with such a close group as studied participants, it is possible to find ways in which collaboration can be at the same time bonding characteristic but executed in the individual way. This leads to the next question of how detailed the network picture is. An answer to that question is provided by the specificity and coherence section.

### 4.3 SPECIFICITY AND COHERENCE

As can be seen in Figure 5, there is a very dominant preference to describe network by means of groups of actors and general situations. In the following table we see examples of that type of descriptions of reality.

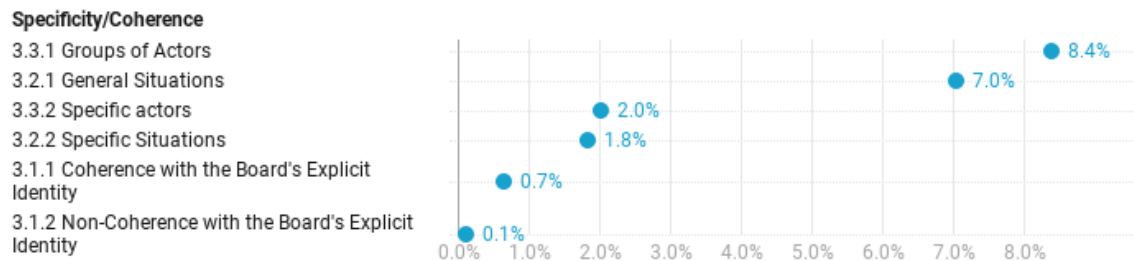


Figure 5 Results from the group specificity and coherence.

LEVEL 2	LEVEL 3	Examples
Actor Specificity	3.3.1 Groups of Actors	“colleagues of the departments”, “startups”, “corporates”, “governments”, “foundations”, “research institutes”
Situation Specificity	3.2.1 General Situations	“we work with”, “they want something”,

Table 8 Shared gatekeepers’ network picture – example for the group “Overall View of Surroundings”.

In the participants’ reaction to this result, we can see two lines of responses. The first one is more about clarifying and deepening discussion about the generalizations of actors and situations which leads to the question if the answer would be the same if the participants were directly asked about their use of detail.

On the other hand, we have participants agreeing fully with the result and noting “although we need a personal relationship with the people we’re cooperating with, this is only valuable if they work with us from their job position, not on a personal level.”

In both lines of response there is an understanding that looking at the more general actors in the picture helps with teamwork, keeping the bigger picture in mind and ensuring actors have resources needed to succeed. Participants also reflected that at the level of general

relationships it is easier to start new projects, keep the overall goal in mind and focus on what all actors need not only one of them.

This leads us to important question of judgment – also moral – and the sense of ‘should’ in the participants picture of their network surroundings. Section dedicated to “Weight” will give us indication on what generalization of actors and situations means in the context of rules and moral philosophy.

## 4.4 WEIGHT

What is important in the results in Figure 6 is that not only the numeric values are significantly lower than most of other codes. It is the lack of the dominant source of guidance that matters. Participants themselves pointed to lack of judgement – being open to need of others – as important ingredient of their work with groups of people with different mentalities.

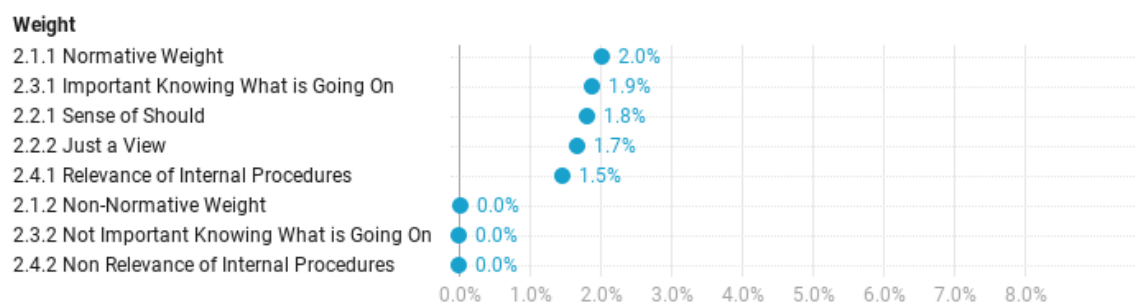


Figure 6 Results from the group weight

## 4.5 FOCUS

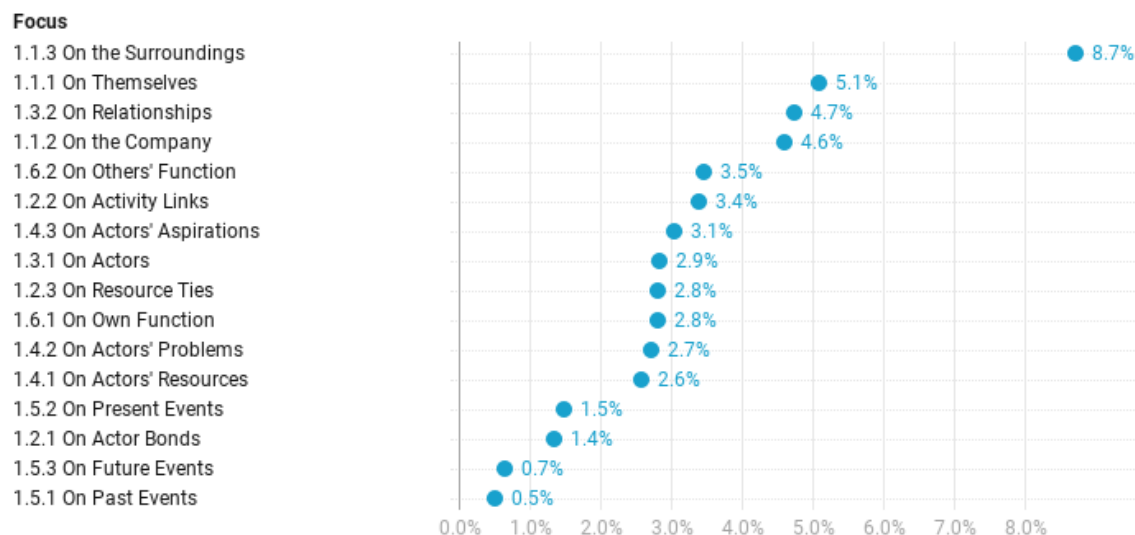


Figure 7 Results from the group focus.

Figure 7 shows us dominant characteristics of the studied group focus, while Table 9 provides examples of how the codes could be recognized in the elements of speech. It is visible that for some codes it is possible to classify them based only on a few words. In other cases, it

is the structure of the whole sentence that matters. Examples and quotes can build our understanding of the possible code variants, but they tell us little about the function of the codes. Why would the network picture be structured this way and not the other? Is there a deeper meaning to perceiving network this way by participants of the study?

LEVEL 2	LEVEL 3	Examples
Actors	1.1.3 On the Surroundings	“with others”, “we work with foundations, corporates, startups”
Actors	1.1.1 On Themselves	“in my work”, “what I do”
Actors/Processes	1.3.2 On Relationships	“they come to me”, “we have connections”
Actors	1.1.2 On the Company	“In my case, this is a municipality of Amsterdam. So, this is government. And I drew it in the middle because from my perspective, it is in the middle.”

*Table 9 Shared gatekeepers’ network picture – examples for the group “Focus”.*

Participants were presented with the results and reacted to them in the way which provides us with deeper insights about the results. They argued that concentration on the surroundings and relationships helps to understand the need of others and build alliances to share resources and exchange ideas. As one of the participants framed it - “in order to spend public money as efficiently and effectively, you can share resources and ideas”. They also pointed out that they cater equally to the surroundings and their organization. That would mean that whenever they mention actors in the surroundings, they mean actors in the context of the relation with their own organization.

In addition, they have agreed that a focus on the relationships is important but pointed out that although characteristics of the specific deals are left to the other departments of the city, they need to align on thematic grounds first. Therefore, in addition to all network characteristics actors’ alignment on thematic interests is important to consider as additional factor in relationship building and performing role of the network gatekeeper.

#### 4.6 SHARED GATEKEEPERS' NETWORK PICTURE

In the previous part of the results, each of the codes group was presented together with respective average results. Describing nuances of each group of codes gave more insight into how to build shared network picture. It is not only numeric value of occurrences that counts but also context of other codes and the setup of the group itself.

Based on the average of the individual participants' results and considering ranking of the codes in each group, it is possible to derive a shared gatekeepers' network picture. This shared picture has main characteristics presented in Figure 8 and their functions described in the Table 10.

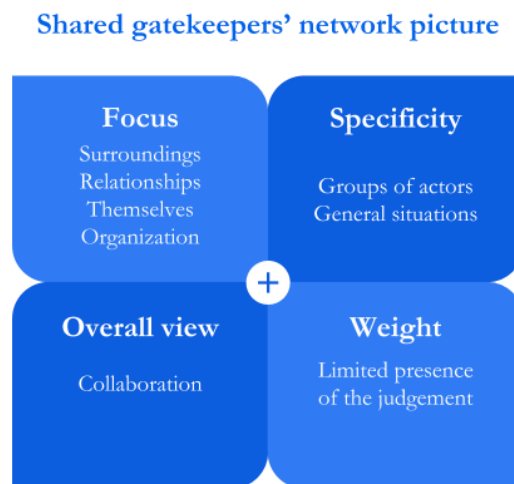


Figure 8 Shared gatekeepers' network picture.

<b><i>Shared gatekeepers' network picture elements</i></b>	<b><i>Function</i></b>
Focus on: <ul style="list-style-type: none"> <li>• surroundings,</li> <li>• themselves,</li> <li>• relationships,</li> <li>• and the company (organization).</li> </ul>	Helps understand need of others and build alliances to share resources and exchange ideas.
Specificity limited by: <ul style="list-style-type: none"> <li>• dominance of group of actors</li> <li>• and general situations.</li> </ul> Overall view of the surroundings dominated by collaboration.	Keeping big picture and overall goal in mind, allowing for new projects to start more easily. Focus on what all actors need not only one of them. Allowing multitude of actors to actively participate, balance and enrich network activities and results.
Limited presence of weight in the respondents' statements.	Being opened to need of others as important ingredient work with groups of people with different mentalities.

Table 10 Shared gatekeepers' network picture elements and their function.

## 5 DISCUSSION

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### 5.1 MAJOR FINDINGS

To get a better understanding of the network picture shared by the gatekeepers in the process of procurement of innovation this study covered one team in the City of Amsterdam's Chief Technology Office (CTO). The team in question is responsible for cooperation with startups and other small and medium enterprises using the means of procurement of innovation. This study concentrated on the generalized characteristics of the network pictures and not detailed content of each participants' individual network picture. It is the first time – as per author's knowledge – that this method is used in the realms of public sector.

The current state of the research regarding gatekeepers' role in the procurement of innovation focuses mostly on the procedural aspect of their conduct and behaviour. This study was aimed at filling the gap between the organizational picture represented by values and procedures and actual decisions and behaviours of the network gatekeepers. Researching the network picture of the participants offered insights into how they perceive their network and actors functioning in it.

The major finding of this study is that adjusting the amount of detailed information in describing gatekeepers' network and actors serves as a bridge for building more robust and wider network of contacts and opportunities. Adjusting of the amount of information is primarily performed when approaching other actors in the network during semi-official and unofficial meetings and conversations.

In addition, a collaborative and non-judgemental approach mixed with concentration on the surroundings, own organization and the relationships serves as enablers for gatekeepers to fulfil their role in the public procurement of innovation.

### 5.2 MEANING AND IMPORTANCE OF THE FINDINGS

At first, the findings sound counterintuitive. In practice, level of detail is usually associated with high amounts of attention and resources. Usually, procedures in the public procurement of innovation present potential applicants with the enormous amount of detailed information regarding the project. In most cases the language used is already specific to the discipline of the tender and requires additional knowledge beyond general higher education skills.

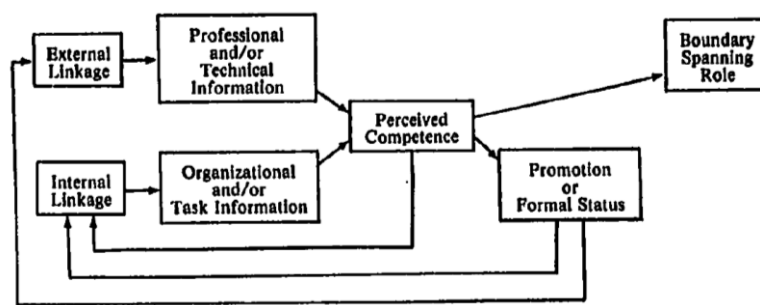
Having that said, when looking at the work of the participants', the main difference about Startup in Residence is the way of structuring information. Author's initial assumptions were that the key difference is in the right selection of detailed information. Instead, when looking at the results such as concentration on general actors, general situations, and non-judgemental approach it appears that the key could be generalizing detailed information to engage other actors in the collaborative way.

If the key is keeping detail of the information at the suitable level it could be possible to adapt it other forms of communication too such as tender descriptions, invitations and other documents that are present in the procurement processes. Given amount of the tenders this would demand some level of automation. It is the only element of network gatekeeping that was not directly found in the results of the study and would require closer investigation in the future.

### 5.3 RELATION BETWEEN THE FINDINGS AND OTHER STUDIES

As stated in the theoretical framework of this thesis “triggering an innovation through procurement means that public organisations [...] need to be able to approach the marketplace and to interact with potential producers in a way that stirs market interest” (Edler and Yeow, 2016, p. 415). According to the findings, stirring market interest in case of study participants is achieved through adjusting amount of information to keep other actors engaged and be able to access their resources. However, that is something that cannot be fully controlled by the gatekeepers themselves. It connects to the way they are perceived by other actors and can be explained by using the concept of boundary spanning roles which are one of the original theories in communication science.

Work of Tushman and Scanlan (1981) highlights especially important aspect of boundary spanning role existence – perceived competence. This observation is key in unlocking the key characteristic of who the network gatekeepers in the procurement of innovation are. Since we know that being gatekeeper or gated can change in the process, successfully holding position of the gatekeeper could be associated with the ability to select and convey enough information to be considered professional and at the same time building level playing field for other actors and their initiatives.



*Figure 9 Antecedents of Boundary Spanning Roles (Tushman and Scanlan, 1981)*

As proposed by Tushman and Scanlan (1981) to engage in information boundary spanning, individuals need to be both internal and external communication star. As mentioned in the section 2.4 of this thesis, stars are the actors in network with significantly higher number of connections than others.

On the individual level it has consequence of being at the same time attached to organizational unit and thematic area which might be external. From organizational point of view, it is interesting to look at the public procurement of information through both network gatekeeping and boundary spanning perspectives. Where network gatekeeping highlights relations between actors, boundary spanning connects to consequences for organizations. When individual in the organization has “this substantial degree of role overlap increases the boundary spanning individual's relative importance to the organization [this] enhances his or her control over the acquisition and interpretation of external information.” (Tushman and Scanlan, 1981, p. 95). To summarize it in simpler words, by performing the role of the gatekeeper in the procurement of innovation individuals not only build and influence the network outside of organization but also influence their position inside of the organization without any adjustment to the internal hierarchy. This can have enormous consequences for hierarchical organizations and can hardly be controlled or minimized as without boundary spanning roles there are no

gatekeepers, without gatekeepers there is less innovations and with that reacting to wicked problems becomes almost impossible. Knowing that work of network gatekeepers is hard to formalize what areas of science could help explain it and with better understanding prepare organizations to change?

As highlighted by Barzilai-Nahon (2008) “frequent, enduring, and direct exchange” is one of key differentiators for the way network gatekeepers operate. This type of exchange is associated with tacit knowledge. In the light of this study findings this is one of the key enablers in work of the studied team – previously mentioned as ability to adjust level of details to engage with other actors in collaborative way. What makes network gatekeepers in the procurement of innovation special is that they manage to maintain their tacit knowledge skills at the same time functioning in an environment dominated by explicit knowledge represented by procedures and laws. If the work environment of the network gatekeepers is so demanding, what kind of skills do they need to operate?

As explained by Selamat and Choudrie (2004), there are certain meta-abilities used in tacit knowledge diffusion. These are: cognitive skills, self-knowledge, emotional resilience, and personal drive. Relation between problematic situation – wicked problem, and how its solution is approached in tacit and explicit knowledge areas can be seen in the Figure 10.

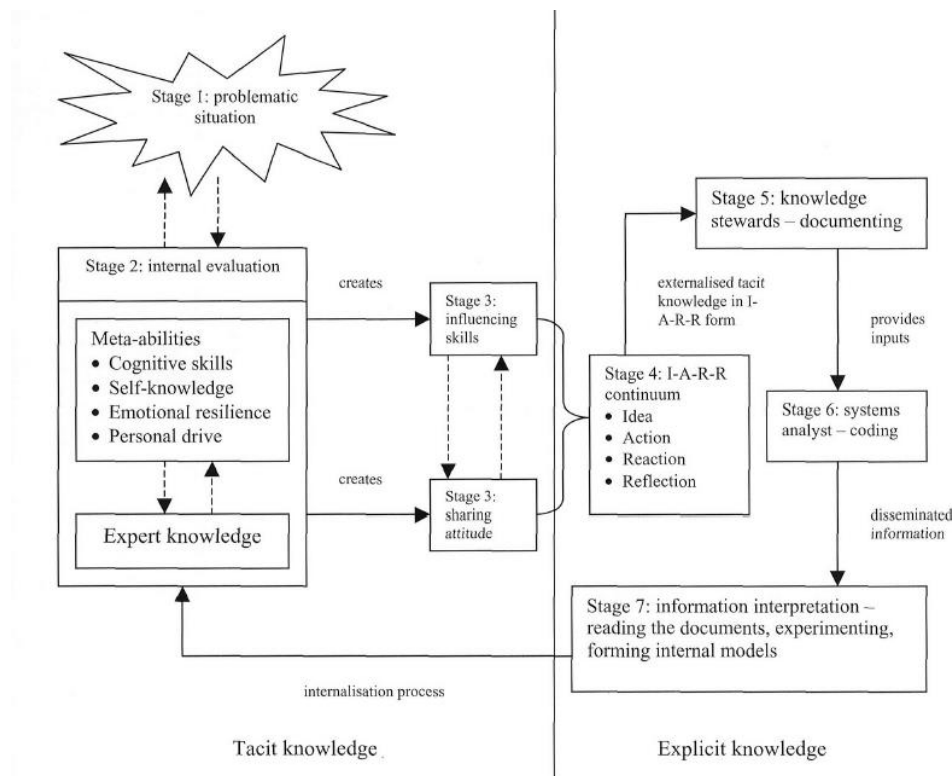


Figure 10 Meta-abilities of tacit knowledge diffusion (Selamat and Choudrie, 2004)

In practice there is the assumption that every employee has ability to understand, create and exchange tacit knowledge. This assumption is though made from the position of maintaining

explicit knowledge areas together with its tools such as procedures, knowledge bases and protocols which serve as form of guarantee that there is shared understanding of organization goals. In the regular situation if members of the organization want to change internal rules, they need to be able to translate their tacit knowledge into explicit knowledge using formal or informal routes.

What is unique in the position of the gatekeepers in the procurement of innovation is that they are not required by the organization to become knowledge stewards. Their role is to stay as much as possible in the tacit knowledge area and leave conversion into explicit knowledge to other employees of the organization. That is unique position which highlights how hard it is for the government to provide solutions to the wicked problems if its willing to change the usual way it operates via procedures and templates.

## **5.4 STUDY'S LIMITATIONS**

There are limitations coming out from the design of the study itself. First, basis for the results is a set of single interviews with team members. It is possible that depending on the moment in time there might have been variation in the perception of their network. Having said that it is important to note that study participants served in their roles for various amounts of time, which makes the results diverse enough for the scale of one team.

Second, study covered only one team – 6 people - out of around one hundred employees of the City of Amsterdam CTO office. Therefore, results can only be applied to people outside the group of participants who work in a similar manner and serve as gatekeepers.

Third, there is additional layer of information which can be uncovered from the data already collected with the method. This information is related to connection between codes occurrences in the results. This approach would require adjustments to the original method as the question of the minimal and maximal size of each analysed unit/paragraph would have to be addressed.

## **5.5 SUGGESTIONS FOR FURTHER RESEARCH**

Future research could give more space to ways of automating behaviours of network gatekeepers. Is it possible to shape information at scale in the same way network gatekeepers do and therefore foster more meaningful interactions with the actors in the procurement of innovation? This knowledge could contribute to altering current norms of communication in procurement at large. Interestingly concentration on the communication elements could open discussion about changes which can be implemented without overhauling current rules of the procurement process. Out of all the elements in the procurement the way information is structured is the least legally regulated area leaving huge flexibility to government officials.

Implication of such a shift in thinking could allow introducing changes to the procurement at scale which is not currently possible because of the focus on procedural problems and challenges.



## 6 CONCLUSION

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Aim of the thesis was to examine the civil servants engaged in the procurement of innovation and uncover their views and values to understand how they perceive their surroundings, what they are focused on, and in what manner they approach their network. Understanding individual's position was a way to explore what are additional components to make standard procedures more suitable in the context of procurement of innovation.

Network pictures' method offers criteria for classification of views, values and perceptions individuals can have. It served as point of reference for assessing participants own perceptions of their networks which implies a strong indicator for how they make decisions in areas not covered by the procedures.

Based on the study performed on the team responsible for Startup in Residence and other procurement of innovation projects in the City of Amsterdam, it is possible to state that the group has a specific set of dominant characteristics. Knowing these characteristics – as they were presented in the results section – allows for answering research questions of this thesis focused on the way network gatekeepers' in the procurement of innovation perceive their network, how they approach others and what is their focus.

The members of the studied group see their surroundings mostly as a collaborative environment where connections on a professional level – representing institution – are more important than the personal ones. Although it is important to be open to other people in the process, it is the organizational engagement that matters. The group also presents awareness of the differences in the mentalities and approaches between them and others in their network.

The studied group focuses on keeping big picture and overall goal in mind. This connects to the initial characterization of the group as working with wicked problems. Focus on the original problem/intention is necessary to keep a fresh view on the situation and be able to revisit the proposed solutions when needed.

The studied group approaches the others with respect and openness – there was almost no judgement found in their perception of the network. For them it was important to understand the needs of others and to build alliances to share resources and exchange ideas. Group's approach is dominated by the idea of others being equals in the relationships with others.

There is also an important finding beyond the original list of the research questions. From the participants reactions to the results, it appears that providing right amount of information on the planned procurement can have a positive effect on engagement of the other actors in the network. According to the participants, it is indeed an important part of relationship building. However, it defies the general practice of providing as much detail as possible at once to offer transparency to the suppliers.

This last finding suggests that it could be possible to foster the relationships not only on the level of personal contact but also on the level of written documents, e-mails, and any other forms of communication. This contrasts with the general perception of the possible improvements to the public procurement which is often characterised as too bureaucratized. It certainly is governed by multiple laws and regulations but none of the procurement laws requires

government to use complicated language or to structure documents in forms of multiple appendices.

Transparency and level playing field are needed both for the quality of the procurement outcomes as well as an accountability measure. However, they can be provided in a way that supplier perceive as more open to their idea on how to resolve the problems that government and society face.

## 7 REFERENCES

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- Arrowsmith, S. (2010). Horizontal policies in public procurement: a taxonomy. *Journal of public procurement*, 10(2), 149-186.
- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management decision*.
- Barzilai-Nahon, K. (2008). Toward a theory of network gatekeeping: A framework for exploring information control. *Journal of the American society for information science and technology*, 59(9), 1493-1512.
- Bosco, F. J. (2006). Actor-network theory, networks, and relational approaches in human geography. *Approaches to human geography*, 136-146.
- De Bruijn, H., & ten Heuvelhof, E. (2008). *Management in networks: on multi-actor decision making*. Routledge.
- Edler, J., & Yeow, J. (2016). Connecting demand and supply: The role of intermediation in public procurement of innovation. *Research Policy*, 45(2), 414-426.
- Mamavi, O., Nagati, H., Wehrle, F. T., & Pache, G. (2014). Out of sight, out of mind? Supplier spatial proximity in French public procurement. *International Journal of Public Sector Management*.
- McConnell, A. (2018). Rethinking wicked problems as political problems and policy problems. *Policy & Politics*, 46(1), 165-180.
- Ramos, C., & Ford, I. D. (2011). Network pictures as a research device: Developing a tool to capture actors' perceptions in organizational networks. *Industrial Marketing Management*, 40(3), 447-464.
- Rittel, H. W., & Webber, M. M. (1973). 2.3 planning problems are wicked. *Polity*, 4(155), e169.
- Shoemaker, P. J. (1991). Gatekeeping.
- Selamat, M. H., & Choudrie, J. (2004). The diffusion of tacit knowledge and its implications on information systems: the role of meta-abilities. *Journal of Knowledge Management*.
- van Winden, W., & Carvalho, L. (2019). Intermediation in public procurement of innovation: How Amsterdam's startup-in-residence programme connects startups to urban challenges. *Research Policy*, 48(9), 103789.

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# 10 APPENDICES

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## 10.1 APPENDIX 1 - INTERVIEW PROTOCOL

This appendix was originally published as appendix of the Ramos and Ford paper titled “Network pictures as a research device: Developing a tool to capture actors' perceptions in organizational networks.” (2011)

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We want to talk about the entities that are around you: about the people, companies, or groups of companies that you have business with and the ones that, although you do not have business relations with, appear to influence or to be influenced by you or by your organization and by your activity.

We also want to talk about the relations that you have with those entities and about the relations that these entities have with other.

### PART A – Visual

#### 1. Visual data collection

Q1: If we give you some blank paper, can you please try to draw the entities that are around you as well as the relations that you see?

Feel free to draw whatever you feel being appropriate. We just want to know what your view on this set of entities and relations is.

Q2: Please clearly identify the names of the entities or groups of entities that you choose to include in this representation.

You can use arrows, lines and circles, squares, whatever you desire and feel as most appropriate. There is no time limit for this task and let us just remind you that there is no correct way to do this drawing or representation.

#### 2. Follow-up discussion

Q3: After finishing your representation, can you please try to explain what you have drawn?

### PART B – Verbal

Scale and structure of the network (Element 1 of network pictures)

Q1: Can you please name the entities that are somehow important for you or for your company's activity?

Q2: Can you also include those with whom you or your company does not have direct contact with, but that somehow condition your or your company's activity?

Q3: Tell me about the entities you have identified:

Q3.1: What are they doing?

Q3.2: What are they trying to achieve?

Q3.3: What problems do they seem to have?

Q3.4: What makes them interesting?

Processes of the network (Element 2 of network pictures)

Q1: Tell me about the relation that exists between you or your company and the entities you have identified. Can you also tell me about the relationship that exists between the entities you have identified?

Q2: For how long have the relationships been going on?

Q3: Will there be any changes in a near future?

Q4: How did the relationships get to the current situation?

Q5: Who was responsible?

Q6: What seems to be happening nowadays?

Q7: Is there something you want to talk about?

Q8: What do these people talk about? And how frequently do they talk?

Q9: Are these people trying to do something or trying to change something in the relationships?

Q10: Who is it that usually takes the initiative to change something in the relationship?

Q11: Does every organization get and give the same 'treatment'? Why is that?

Q12: Do any of these relations make a difference for your activity?

Q13: Was there any particular investment in these relations? If so, of what nature?

Q14: What is it that these entities apparently do or develop together?

Positioning in the network (Element 3 of network pictures)

Q1: Where would you place yourself/your company within the group of entities you have identified?

Q2: From your understanding, what is the most important entity? And why is that?

Q3: Would you say that there is any entity with the capacity to influence the others? Why is that?

## 10.2 APPENDIX 2 – CODEBOOK

This appendix was originally published as appendix of the Ramos and Ford paper titled “Network pictures as a research device: Developing a tool to capture actors' perceptions in organizational networks.” (2011)

### Appendix 2

Examples of typical sentences used by respondents that perceived the world in certain terms.

Dimension	Sub-dimensions	Illustration
1.1 Actors	1.1.1 On Themselves 1.1.2 On the Company 1.1.3 On The Surroundings	. “... I do not have any relations with this company.” . “...my clients are also supplied by my competitors.” . “...our strategy is...” . “We are increasingly looking for sectors where we can grow...” . “...for me is my competition and can't leave them out of my sight...” . “We are within this Universe.”
1.2. Processes	1.2.1 On Actor Bonds 1.2.2. On Activity Links 1.2.3. On Resource Ties	. “... I maintain a personal relationship, but it is more an exchange of information on a personal level...” . “That supplier's facilities are very near and that is a huge advantage for us...” . “...we have a Key Account Manager...” . “...there are rehearsals for raw materials...” . “...since we supply in a just-in-time regime...” . “...we have some cross-relations in the technology area...”
1.3 Actors/ processes	1.3.1 On Actors  1.3.2 On Relationships	. “...they have the typical problems that other companies in this country have: great lack of organization, personnel training levels are low...” . “...it is an interesting company, with good health, which has been growing by making acquisitions of other companies or growing by its own means...” . “We have a very balanced relationship with suppliers...” . “...in operational terms, they have inbound logistics, which traditionally consists in bringing trucks with plastic containers from a faraway location, which suppliers are faraway...”
1.4 Actors' features	1.4.1 On Actors' Resources  1.4.2 On Actors' Problems 1.4.3 On Actors' Aspirations	. “That company's major resources are the old influences since they are very well positioned in the market... old relations, good contacts...” . “They are technologically advanced and enjoy an image of technological ability, quality...” . “They wanted to have a larger market share, having invested enormously in their facilities” . “...they want to go through a restructuring process but are not able to...” . “...they are arrogant, inflexible, and technically distant, with high costs...” . “This company can't understand that there are major problems between the Portuguese and the Spanish market.”

Appendix 2 (continued)

Dimension	Sub-dimensions	Illustration
1.5 Time span	1.5.1 On Past Events 1.5.2 On Present Events 1.5.3 On Future Events	. "I remember some situation from the past...". ...In those times, it was a family owned, typically family run business...". ... at this moment [...] we are increasing the capacity. ...Nowadays, the final customer is probably the one that influences the most...". ... potentially we will have to be very flexible to overcome the situations...". ... as the company grows, it's natural that there will be a need to increase financial control...".
1.6 Function	1.6.1 On Own Function  1.6.2 On Others' Functions	Commercial Directors would typically use expressions such as: ...Competitors are interesting first of all because it's important to know your enemy to win the battle." The RM (Ram Materials) Purchasing Director, on the same matter said, for example: ...I don't have a clue if there are relations between clients. [...] That is very, very far away from this business area...". Commercial Directors would say something like: ...we are in strategic relations with our transport and convey system suppliers, raw materials, equipment and machinery" The RM Purchasing Director used expressions such as follows: ... was a very interesting project and innovative in technological terms."
2.1 Normative	2.1.1 Normative Weight  2.1.2 Non Normative Weight	. "To renew the contracts, we have to do two things: we have to be competitive which means having low prices (reflecting a sexy price) and to guarantee high quality." ...has to be very strong as a business partner...". ...and that is more or less how we behave...". Typically, what we do is...".
2.2 Moral	2.2.1 Sense of Should 2.2.2 Just a View	. "We always pay on time; we are not a company that does not do what it has agreed...". ... but it's a "job for the boys"...". ...I do consider it important that we are once again within this recycling world because our survival goes through there...". ... and anyway I do not worry much about our environmental impact...".
2.3 Knowing What is going on	2.3.1 Important  2.3.2 Not Important	. "...we don't know enough about what competitors are doing." ... be in the lead of what is happening, to direct what is important for the company...".  ...Me, relations with suppliers, I am very distant...". ...I don't have a clue if there are relations between clients...".
2.4 Internal procedures	2.4.1 Relevance  2.4.2 Non Relevance	. "They try not to be dependent on internal scientists regarding technologies...". ...we don't produce and then stock it and transport and then deliver; instead, we produce and deliver immediately." ...
3.1 Coherence with board identity	3.1.1 Coherent  3.1.2 Non Coherent	. "We know how to choose the best solution on behalf of our clients: we are specialists". ...we do things because we believe in them."  ...and the Group is much more formally structured than it is willing to admit." And even our CEOs are everything except low profile and therefore, there is a certain tendency for stars at our company! Personally, it's not my style since I'm generally low profile but here, we are compelled, we can't...".
3.2 Situation specificity	3.2.1 General Situations  3.2.2 Specific Situations	. "In the past, this industry had many players (small and medium size companies that easily invested in this kind of technology and produced plastic containers)...". ...before plastic replaced PVC, there were many quality problems in production due to the poor quality of raw materials...". For example, we conducted a study of a modification for a material of a container". Once, this competitor had to lower their prices too much because of us...".
3.3 Actor specificity	3.3.1 Groups of Actors 3.3.2 Specific Actors	. "Consumers want environmentally friendly and increasingly attractive containers." ...many multinationals were led into reviewing their industrial units' configurations...". But this also happens, like with these 3 specific clients, in which we take in whatever it is necessary to do directly from the marketing...". ... and the clients all need a "lifting" (changing their image or reformulating and shaping) every 3 or 4 years. This client is obviously not one example."
4.1 Stereotype	4.1.1 A Network  4.1.2 A Supply Chain or Other	. "...our strategic positioning depends on the positions of these companies." ...there is a very strong interconnection in all of this, in such a way that the containers that we produce are according to what the society expects from us." If we had what we call a supply chain, it is quite obvious that this company is nowadays a seriously important player...". This is the value chain of a typical multinational which has business in home or body care, typically our clients."
4.2 Consistency	4.2.1 Consistent  4.2.2 In Conflict	. "... it is also an industry of small series." and "right now, our company has the right formula: very flexible, [...] with a very low pyramid...". The way we relate to these companies is also in function with their Latin and Saxon base, respectively" and "our trend is to be much more formal with this client than with that one...". There is not really a motive for drawing the company in the middle; it's more an emotional issue..." and "I think that in terms of importance, the multinational companies are also the ones who have a bigger capacity to influence the others...". I know about relations with suppliers... even this week I visited two trying to understand what they are doing..." and "...I am not sure if I am the most appropriate person to tell you about the relations we have with suppliers... because [...] here, it is the director of the plants and the person responsible for the purchases... [...] that has relations with them."
4.3 Structuredness	4.3.1 Structured	. "Our company is inserted into a group of services suppliers related to containers. [...] I can draw the different companies that we fundamentally have relations with, which are different multi-nationals that we work for. Our company supplies the containers in a partnership regime. [...] These multinationals are also supplied by our competitors, who are in the market and who are important players worldwide...".

(continued on next page)



## Appendix 2 (continued)

Dimension	Sub-dimensions	Illustration
4.3 Structuredness	4.3.2 Unstructured	. "Just imagine!!! I forgot to include the competitors in my drawing..." ". ...and therefore I question myself: "where am I going to place competition, suppliers and others on this piece of paper? And this is because for me, in a certain moment in time, they all have to be in the first line."
4.4 Stasis	4.4.1 Evolving	. "In the past, this industry had many players and nowadays the same that happens in the other industries is taking place, with concentration trends..." . "Consumers are increasingly environmentally aware and they are sensitive to prices."
	4.4.2 Static	. "I have some difficulty in describing the relationship with this client but surely it hasn't changed much from 5 years to this part..." . "In the relation with this client, and in Portugal, there is nothing new... It's like a wedding: a very cold relationship since everything is defined, the boundaries are perfectly established..."
4.5 Broadness	4.5.1 Broad	. "...what the raw material suppliers try to do is obviously to convince us to buy but they go to these companies (the clients) with institutional presentations..." . "...typical multinationals which have business in home or body care, typically our clients. [...]... support activities such as purchasing, technical and technological support, finance, IT and others, such as human resources [...], bringing trucks with plastic containers from a faraway locations..."
	4.5.2 Narrow	. "I am very ignorant in this area and I haven't been worried with recycling matters, legal issues or lobbying. On a day to day basis, I don't deal with this." . "The company, then the clients (which here are also designated by partners)... [...] We have the suppliers here to this side... [...] I forgot to include the competitors in my drawing..."
4.6 Comprehensiveness	4.6.1 Comprehensive	. "It's a relation that... since I have arrived to this company, it has been through several stages. Nowadays, it is going through a difficult stage because for what I understood, it is designated as a commodity and that is worrying." . "Technology suppliers usually try to focus on a particular specialization [...]. And they try to develop their competitiveness factor to the maximum: it's obviously the prices of the equipment and the market technology and their performance in terms of costs and productivity."
	4.6.2 Non Comprehensive	. "I don't know about concrete situations but I imagine that it must be like that with my client. It's a relationship at two levels..." . "I am not able to say much about them. I know that they are very strong in the segment where our company works..."
4.7 Conflict or collaboration	4.7.1 Conflict / Power	. "... sometimes, we also win and it feels great beating that competitor. But they often win..." . "Raw material suppliers are world giants from the chemistry area and we try to get into their radar by concentrating our purchasing..."
	4.7.2 Collaboration	. "Our company supplies the containers in a partnership regime. We have an honest and open relationship with our partners..." . "...what I can do for them and what they can do for me."
4.8 Actors as provider for...	4.8.1 Customized Offers	. "They weren't able to understand that their products didn't suit us and there were other producers who would."
	4.8.2 Standardized Offers	. "...the equipment and plants are increasingly flexible: changes can be introduced in a rapid way." . "We don't have much necessity to influence them since they provide a standard product." . "... but also multi-client plants; this sometimes enables them to have competitive advantages, because it takes complexity out of the relationship and they are able to supply clients which volumes do not justify for an in-plant solution".

### 10.3 APPENDIX 3 – EXAMPLES OF CODING

These two examples are taken out of the context of longer statements and are used to show primarily presence of the codes which is how description of network is structured.

Each example will be presented in full and then dissected into fragments. In each fragment there are highlights used to draw attention to parts of sentences. Reason for the highlight and explanation are present underneath each respective fragment.

---

Shared gatekeepers' network picture - first example

“And they, of course, work again for the national governments. And they all want something from the program as in they want something to do with startups or innovation. And somehow, it is translated into my job. So, I am in my work involved with all these parties. Then I have put down also other cities and other governmental organizations because we have, of course, different startup in residence programs. So, we are interconnected with them not only to see if we can help them to start the startup in residence program, but also just to see if we can get some sort of level of like quality of the other programs. And they also come to us for other questions concerning procurement or trajectories.”

Interview 1, Unit 24

“And they, of course, work again for **the national governments**.”

→ “the national governments” is more precise term than “others” but not as detailed as specific institutions for example “German government”. This suggests coding as group of actors instead of specific actors.

“And they all want something from the program as in they want something to do with startups or innovation. And somehow, **it is translated into my job**. So, **I am in my work** involved with all these parties.”

→ “**It is translated into my job**” highlights importance of interviewee in the network picture as it shows that described elements result in their placement and role in the network picture.

→ “**These parties**” points to the image which participants have drawn but at the same time they have chosen not to use precise name of the parties.

“Then I have put down also **other cities and other governmental organizations** because we have, of course, different startup in residence programs.”

→ “**Other cities and other governmental organizations**” indicate only group of actors not mentioned before but is not specific enough to know exactly which actors they are.

“So, we are interconnected with them not only to see if we can help them to start the startup in residence program, but also just to see if we can get some sort of level of like quality of the other programs. And they also come to us for other questions concerning procurement or trajectories.”

→ “interconnected”, “help”, “come to us” indicates more of a collaborative vision of reality as opposed to power/conflict.

#### Shared gatekeepers’ network picture - second example

“The city and we have been in contact with corporates all the time, and I think we can use it even more strategically to innovate together with corporates as well. And I think we are going there. It takes a little bit of time. We have been also always in contact with the foundations, because most of the foundations that we work with have innovation in a high priority.”

Interview 6, Unit 22

“The city and we have been in contact with corporates all the time, and I think we can use it even more strategically to innovate together with corporates as well.”

→ “The city and we have been in contact” indicate concentration on themselves, company, surroundings.

→ “corporates” is just a general group of actors.

→ “we can use it even more strategically” is indication of general course of action or situation that is planned or might take place in the future.

→ This part shows more concentration on the fact of having relationship and not particular features of actors.

“And I think we are going there. It takes a little bit of time”.

→ “It takes a little bit of time” in this case indicates that there is limited weight to the statement above as it suggests that even with resources in place there is time needed and it is something which cannot and doesn’t have to be speeded up.

“We have been also always in contact with the foundations, because most of the foundations that we work with have innovation in a high priority.”

→ “We have been also always in contact” is description of general situation also not anchored directly in time. It is rather indication of something inherent of the network picture.

→ “foundations” is again indication of group of actors.

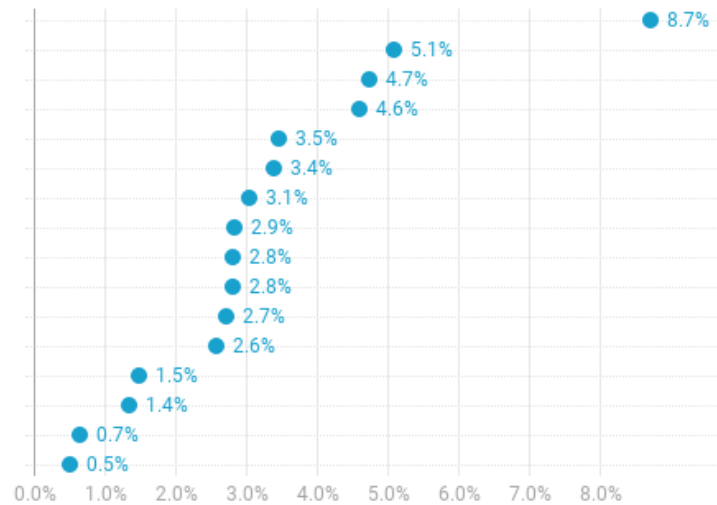
→ “most of the foundations that we work with have innovation in a high priority” shows that even though we can uncover feature of the actors – giving high priority to the innovation efforts – it is relation with them that comes first, and this feature is a reason for that relation.

To summarize, two presented examples show how the elements of shared gatekeepers’ network picture are present in the participants’ statements, how they can be used together but also how they follow each other in the logical sequence of the sentence.

## 10.4 APPENDIX 4 - FULL RESULTS TABLE

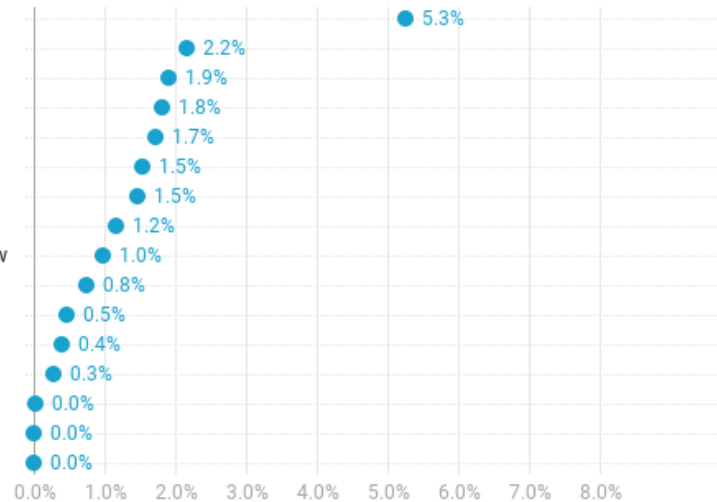
### Focus

- 1.1.3 On the Surroundings
- 1.1.1 On Themselves
- 1.3.2 On Relationships
- 1.1.2 On the Company
- 1.6.2 On Others' Function
- 1.2.2 On Activity Links
- 1.4.3 On Actors' Aspirations
- 1.3.1 On Actors
- 1.2.3 On Resource Ties
- 1.6.1 On Own Function
- 1.4.2 On Actors' Problems
- 1.4.1 On Actors' Resources
- 1.5.2 On Present Events
- 1.2.1 On Actor Bonds
- 1.5.3 On Future Events
- 1.5.1 On Past Events



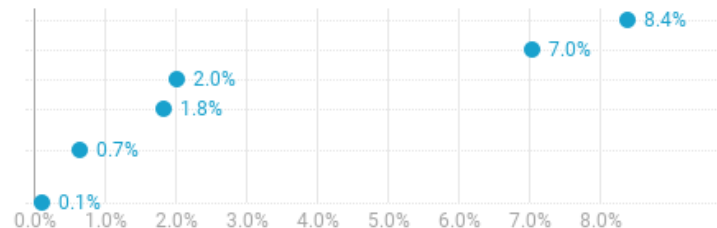
### Overall View of Surroundings

- 4.7.2 Collaboration
- 4.3.1 Structured
- 4.4.1 Evolving
- 4.8.1 Customized Offers
- 4.1.1 A Network
- 4.2.1 Consistency
- 4.5.1 Broad
- 4.7.1 Power/Conflict
- 4.1.2 A Supply Chain or Other Stereotyped View
- 4.6.1 Comprehensive
- 4.8.2 Standardized Offers
- 4.4.2 Static
- 4.2.2 In Conflict
- 4.6.2 Non-Comprehensive
- 4.3.2 Unstructured
- 4.5.2 Narrow



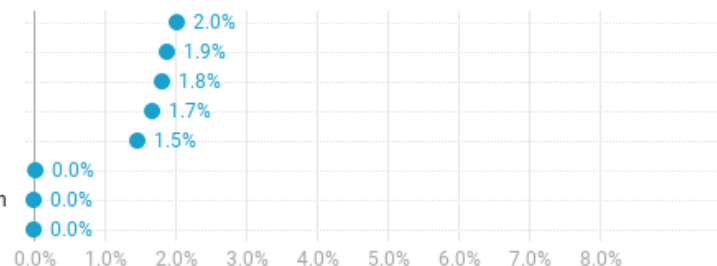
### Specificity/Coherence

- 3.3.1 Groups of Actors
- 3.2.1 General Situations
- 3.3.2 Specific actors
- 3.2.2 Specific Situations
- 3.1.1 Coherence with the Board's Explicit Identity
- 3.1.2 Non-Coherence with the Board's Explicit Identity



### Weight

- 2.1.1 Normative Weight
- 2.3.1 Important Knowing What is Going On
- 2.2.1 Sense of Should
- 2.2.2 Just a View
- 2.4.1 Relevance of Internal Procedures
- 2.1.2 Non-Normative Weight
- 2.3.2 Not Important Knowing What is Going On
- 2.4.2 Non Relevance of Internal Procedures



## 10.5 APPENDIX 5 – SURVEY REGARDING STUDY RESULTS AND PARTICIPANTS' REACTIONS

### Network pictures research

\*Required

This survey takes 15-20 minutes to complete

#### Network pictures research

##### Overall result

All the interviews were coded and resulted in network picture which is shared by the team.

According to this analysis your team has certain characteristics:

- Focus on the surroundings, yourselves, relationships, and the company (City of Amsterdam)
- Overall view of the surroundings dominated by collaboration
- Specificity limited by dominance of group of actors and general situations
- Limited presence of weight (strong norms influencing description of reality) in the statements

##### What is needed from you?

In this survey you will see results grouped in four categories.

In each of the categories you will see statements connected to the study results and questions allowing you to react to them.

Your answers will enrich analysis of the results suggesting important aspects to be taken into consideration.

Thank you for your help and the participation.

#### Focus

1. In our work, my team is mostly focused on the relationships and not specific characteristics of the actors, organizations and institutions we work with. \*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

2. Please explain your answer to the previous question \*

---

---

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3. In our work, my team is mostly focused on the surroundings such as actors, organizations and institutions other than City of Amsterdam. \*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

4. Please explain your answer to the previous question \*

---

---

---

---

5. What could be the function of concentrating on the surroundings and relationships? \*

---

---

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#### Specificity and coherence

6. In our work, my team sees our network as groups of actors (as opposed to particular actors) engaged in general situations (as opposed to particular activities) \*

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

7. Please explain your answer to the previous question \*

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8. What could be the function of seeing your network mostly on the level of bigger groups and not the particular actors? \*

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---

---

9. What could be the function of seeing your network mostly on the level of general relationships and not the particular situations? \*

---

---

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---

#### Overall view of surroundings

10. In work of my team collaboration is the dominant way of perceiving reality. \*

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

11. Please explain your answer to the previous question \*

---

---

---

---

12. What could be the advantage of having more collaborative than hierarchical relations? \*

---

---

---

---



### Weight

13. In work of my team we take into account not only our own preferences but also preferences of other actors, groups or organizations. \*

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

14. Please explain your answer to the previous question \*

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15. Do you experience situations in which you tell others what to do because of your own (or your team's) view on what is needed in the situation? \*

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### Additional comments

16. Do you have anything else that you would like to add?

---

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Thank you for participating in my study!

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## 10.6 APPENDIX 6 – CODES CHARACTERISTICS

### Dimensional Group 1 – Focus

First group of results can be divided in six sub-categories as visible in the Table 11 presenting codes characteristics. Further division into particular codes does not mean single choice of category per analyzed unit of text. It is more of the scale on which each category can be described. For example, when it comes to actors there are three focus points of attention: actors themselves, company/organization and the surroundings. Although it is possible for actors to be strongly oriented towards one or another option, what can be seen in the results is that it is not the occurrence of codes themselves which shows us a profile of a certain gatekeeper or group. Results have to be analyzed in context of each group to understand what in this case constitutes a dominant code or significant difference.

1.1 Actors	Characterizes an actor view with regard to his/her perception on who the 'focal' actor or groups of actors in the network is/are	1.1.1 On Themselves 1.1.2 On the Company 1.1.3 On the Surroundings
1.2. Processes	It is about the element(s) of relationships that an actor thinks more intensively about;	1.2.1 On Actor Bonds 1.2.2 On Activity Links 1.2.3 On Resource Ties
1.3 Actors/Processes	Reflects whether an actor perceives the surroundings network as a set of relevant actors or/and in terms of relationships between those actors;	1.3.1 On Actors 1.3.2 On Relationships
1.4 Actors' features	It is related to those structural features of the surrounding actors that an actor thinks more intensively about;	1.4.1 On Actors' Resources 1.4.2 On Actors' Problems 1.4.3 On Actors' Aspirations
1.5 Time span	It addresses which distinct periods of time an actor thinks more intensively about;	1.5.1 On Past Events 1.5.2 On Present Events 1.5.3 On Future Events
1.6 Function	Reflects whether an actor thinks in terms of a particular departmental function or not, and if so, if in the terms associated to his/her current function or if in terms of others' functions.	1.6.1 On Own Function 1.6.2 On Others' Function

*Table 11 Codes characteristics - Focus*

### Dimensional Group 2 – Weight

In the second group where codes like “normative”, “knowing what is going on” and “internal procedures” are present it is possible to use regular expressions from the code book examples, but they need to be adjusted to individual’s style and language.

Category of weight consists of four elements which are normative, moral, knowing what is going on and internal procedures. In the case of this last category it is important to note how varied the presented codes are. Sense of should, moral philosophy, procedures and use of reason (knowing what is going on) present wide range of possible answers to one question: what is that guides you in your work?

2.1 Normative	Allows characterizing actor perceptions in terms of whether he/she knows what should or should not be done so that success can be achieved in business practices;	2.1.1 Normative Weight 2.1.2 Non-Normative Weight
2.2 Moral	It is about whether there is a moral philosophy underpinning the way an actor perceives the world;	2.2.1 Sense of Should 2.2.2 Just a View
2.3 Knowing What is Going on	Reflects if an actor considers it to be important or not to be aware of what is taking place in the surroundings, no matter how much it is related to his/her activity;	2.3.1 Important Knowing What is Going On 2.3.2 Not Important Knowing What is Going On
2.4 Internal Procedures	Addresses the extent to which an actor considers important knowing about actors' internal processes.	2.4.1 Relevance of Internal Procedures 2.4.2 Non Relevance of Internal Procedures

*Table 12 Codes characteristics – Weight*

### Dimensional Group 3 - Specificity/Coherence

In the third group where codes like “situation specificity” and “coherence with board identity” are present definition needs to be created per interview transcript, but it is possible to use examples from the codebook as point of reference.

Specificity/Coherence consists of three groups which are actor specificity, situation specificity and coherence with board identity. As in the previous sections Table 13 provides us with the definition of the groups. What is interesting is that there are two categories where detail of the network pictures matters which makes it the most important issue of the category.

3.1 Coherence with Board Identity	Reflects whether an actor agrees with the principles that his/her company's board explicitly states for the organization;	3.1.1 Coherence with the Board's Explicit Identity 3.1.2 Non-Coherence with the Board's Explicit Identity
3.2 Situation Specificity	It is about the extent of detail to which an actor thinks about situations;	3.2.1 General Situations 3.2.2 Specific Situations
3.3 Actor Specificity	Reflects the extent of detail to which an actor thinks about actors;	3.3.1 Groups of Actors 3.3.2 Specific actors

*Table 13 Codes characteristics – Specificity/Coherence*

### Dimensional Group 4 - Overall View of surroundings

In the fourth group where codes like “stereotype”, “consistency”, “structuredness” and “conflict/collaboration” are present it is impossible to use examples from the codebook directly. There is a need to define all the concepts briefly before going into coding, especially considering what makes the concept opposite as with “structured”/“unstructured” for example. Afterwards it will be possible to present new examples and definitions arising from the transcript analysis.

Overall View of Surroundings consists of 8 groups. These are: conflict/collaboration, structuredness, stasis (dynamism), actors as providers, consistency, broadness and comprehensiveness. Table 14 presents characteristics of each group of codes.

4.1 Stereotype	Characterizes the view held by an actor in terms of the distinct forms of visual representation or framework that he/she uses to represent the surrounding network;	4.1.1 A Network 4.1.2 A Supply Chain or Other Stereotyped View
4.2 Consistency	Reflects if an actor sees things in a more or less comprehensively coherent way;	4.2.1 Consistency 4.2.2 In Conflict
4.3 Structuredness	It is about whether an actor perceives the world in a more or less structured and organized way;	4.3.1 Structured 4.3.2 Unstructured
4.4 Stasis	It is associated with the extent of dynamism that an actor perceives;	4.4.1 Evolving 4.4.2 Static
4.5 Broadness	Characterizes an actor view with regards to the scope of his/her perception of the surrounding network;	4.5.1 Broad 4.5.2 Narrow
4.6 Comprehensiveness	It is about the extent of specificity associated with an actor view of the surrounding network;	4.6.1 Comprehensive 4.6.2 Non-Comprehensive
4.7 Conflict/Collaboration	Characterizes an actor view in terms of whether he/she sees the surrounding in terms of conflict/collaboration situations;	4.7.1 Power / Conflict 4.7.2 Collaboration
4.8 Actors as Providers	Defines how an actor perceives the surrounding actors in term of services provided.	4.8.1 Customized Offers 4.8.2 Standardized Offers

*Table 14 Codes characteristics – Overall View of Surroundings*