The use of boundary spanning objects in digital transformation projects

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Abstract

The completion of projects that are carried out across multiple fields of an organization depends on the ability to span the boundaries between these fields. This also applies to digital transformation projects. Nowadays, the IT infrastructure of an organization is becoming more essential for the functioning of the organization. This leads to more organizations that are concerned about their digital side. Organizations tend to set up digital transformation projects to improve their IT infrastructure to a better fit for their organization. Therefore, they need practical tools to support the digital transformation process and create a common vision across stakeholders. This research describes how the Operating Model Canvas (OMC) and the Business Activity Model (BAM) serve as boundary spanning objects in digital transformation projects. To be able to do this, a literature study on boundary spanning and a comparative case study with digital transformation projects was conducted. The OMC and BAM can support boundary spanning activities in digital transformation projects by ensuring there is someone on the client's side that will take on a boundary spanning role and propagates the OMC and the BAM within the rest of the company. Other contributing factors are the urgency of the problem related to the assignment and the open attitude towards the project of all stakeholders.

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1 Introduction

For an organization in the 21th century it is essential to have their IT infrastructure in order, to be able to compete or even to participate within their market. To be clear: IT alone does not determine the success of a product or service, but is essential for the functioning of the organization (Coertze & Von Solms, 2014). In the last decade, the business infrastructure of organizations has been undergoing a digital transformation to improve their daily operations (Morakanyane, Grace, & O'Reilly, 2017; Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). In order for organizations to succeed in digital transformation, business and IT professionals have to align their strategy. In practice, business and IT departments often come from a different perspective and aligning those perspectives comes with many challenges and issues (Njanka, Sandula, & Colomo-Palacios, 2021). One of these challenges is working with different groups of people, internal and external of the organization (Marrone, 2010; Fisk, Berente, & Lyytinen, 2010).

Being able to work across boundaries is becoming a wanted skill within organizations. Individuals that have capabilities such as understanding other cultures and communicating with people with different backgrounds are even said to be essential for successful boundary spanning between different fields (Jesiek et al., 2018). Fisk, Berente and Lyytinen (2010) state that, within the field of IT, project success is influenced by boundary spanning roles or the capability of business and IT professionals to become more familiar with the opposite field of work (Fisk et al., 2010). Not only boundary spanning individuals, but also boundary spanning objects can be used to enhance boundary spanning in practice (Jesiek et al., 2018). Boundary spanning can be referred to as successfully engaging persons from two different fields in related activities of both fields. Even though multiple definitions of boundary spanning and related concepts can be found in literature (Levina & Vaast, 2005; Jesiek et al., 2018; Marrone, 2010; Van de Ven & Zahra, 2016; Strode, Huff, Hope, & Link, 2012), little research has been done on the working of boundary spanning individuals or objects in practice in digital transformation.

1.1 Problem Statement

According to Fisk et al. (2010), when developing an Information System (IS), the success of the project depends on how cross-functional teams work together and create a shared understanding of the problem the system is trying to solve. These cross-functional teams often use different methods and have a different workplace culture, which can create obstacles for collaboration. In short, the success of an IT project depends on the ability to span the boundaries between the different stakeholders (Fisk et al., 2010). Not only for the development of IS, but for all organisations that work with (global) cross-functional teams, boundary spanning is becoming a fundamental practice. Boundary Spanning is often used as a general term for collaboration between stakeholders with different backgrounds for finding a solution to a complex problem (Bednarek et al., 2018; Jesiek et al., 2018). In practice, boundary spanning depends on certain individuals and objects. Levina and Vaast (2005) make a distinction between boundary spanners that are nominated or formally assigned and boundary spanners in practice. Their definitions are respectively as follows: "agents who were assigned by the empowered agents in a field to perform certain roles in spanning boundaries of diverse fields" and "agents who, with or without nomination, engage in spanning boundaries of diverse fields" (Levina & Vaast, 2005, p. 342). They also make a distinction between designated boundary objects and boundary objects-in-use, which are respectively defined as "artifacts that, due to their design and properties, were named as valuable in spanning boundaries of diverse fields" and "artifacts that, with or without designation, are not only usefully incorporated in the practices of diverse fields, but also acquire a common identity in joint practices" (Levina & Vaast, 2005, p. 342).

To research boundary spanning in practice, this study is conducted at Anderson MacGyver, a consultancy company that supports organizations with their digital transformation and optimizing their use of technology and data. To accomplish this goal, they use a multimodal approach and emphasize that digital transformation needs to be approached from a business level. To create a shared understanding of the company value propositions, channels, actors and primary and supporting activities, they use the Operating Model Canvas (OMC) for a visualization of these concepts (Reijnen et al., 2018). The primary and supporting activities in specific are classified with help of the Business Activity Model (BAM). The aim of this model is also to create a shared understanding about the focus of the business activities (Nieuwmeijer, 2021). Both models have the aim to create a shared understanding between different stakeholders. Therefore, they support boundary spanning, in specific between the fields of IT and Business as Anderson MacGyver works between these fields. OMC and BAM can be seen as possible boundary spanning objects, as in practice they have been used successfully in many projects with cross-functional teams with different backgrounds, spanning boundaries of diverse fields. However, there is no scientific base for this statement.

This research aims to describe how OMC and BAM serve as boundary spanning objects. It continues to build on earlier research on boundary spanning in practice and look specifically at how the deployment of these models as boundary spanning objects is optimised. Therefore, the main research question is stated as follows: "How can the Operating Model Canvas (OMC) and the Business Activity Model (BAM) support boundary spanning achievement in Digital Transformation projects?".

1.2 Contribution

When answering the outlined problem statement, new knowledge will be created that can serve as scientific value but also as social or business value. The scientific contribution of this thesis is new knowledge on how to put boundary spanning and related concepts in practice to enhance project success. In the current literature, the need for boundary spanning and its meaning is known. However, little research has been done on boundary spanning in the practice of digital transformation. As the field of IT is indispensable these days, as stated in the introduction, this research will be a great addition to the current literature.

The managerial relevance of this thesis are new insights for the management consultants of Anderson MacGyver, which can be put into practice when deploying the OMC or the BAM. This research will provide new knowledge on how both models support boundary spanning in digital transformation. As this research is conducted with data from Anderson MacGyver, these new insights are well applicable for the company. Also, other organizations within the field of digital transformation can apply these insights when having to work across boundaries.

1.3 Outline

This proposal will be structured as follows. Chapter 2 will provide an introduction to the concept of digital transformation, the OMC and the BAM. Chapter 3 will provide insight in the related work on boundary spanning and related concepts. Chapter 3 will elaborate on the research method used to answer the MRQ. The chapter is divided in subsections on the research questions, the research protocol and the framework. The framework will be based on the literature study of section 2. The results of the within-case and cross-case analysis can be found in section 5. The implications of the findings are discussed and elaborated upon in section 6. Section 7 contains the conclusion and section 8 will discuss the possibilities for future research. This thesis will be concluded with the references and the appendix.

2 Background

As stated earlier, Anderson MacGyver is a consultancy company that supports organizations with their digital transformation and optimizing their use of technology and data. Management consultant from Anderson MacGyver have created the OMC and the BAM. This section will provide an introduction to the OMC and the BAM as a basic understanding of these models is needed for this research. But first, digital transformation is defined and explained, as this concept lays at the base of both models. The models are used to support the digital transformation process of organizations. Second, both models will be described and visualised. This introduction is based on earlier research on the OMC and the BAM (Reijnen et al., 2018; Nieuwmeijer, 2021). Next to this, internal white papers of Anderson MacGyver will be used to collect more information on the use of both models in practice.

2.1 Digital Transformation

The OMC as well as the BAM are used to support digital transformation for organizations. Therefore, digital transformation should be defined before looking further into both models. Multiple definitions can be found in literature (Bowersox, Closs, & Drayer, 2005; Westerman, Bonnet, & McAfee, 2014; Mazzone, 2014; Bouee & Schaible, 2015; Schwertner, 2017), all with their own perspective. For this research, we follow the definition of Westermann, Bonnet and McAfee (2014): "the use of technology to radically improve performance or reach of enterprises" (Westerman et al., 2014, p. 1), as it is closest to the description of digital transformation of Anderson MacGyver. In the white papers of Anderson MacGyver, digital transformation is the focus of organizations on integration of digital technology into all areas of the organization (Sprokholt, Haijenga, & Reijnen, 2021; Sprokholt, Haijenga, & Nieuwmijer, 2021). To accomplish this, the organization should not focus only technology, but mainly on their business strategy and creating a resilient and dynamic company culture (Sprokholt, Haijenga, & Nieuwmijer, 2021).

2.2 Operating Model Canvas

The OMC can be seen as an approach for creating a shared vision of the organization's business activities between IT and business stakeholders as a basis for digital transformation. It creates a visual representation of the organization in terms of its customers, partners, stakeholders, channels, value propositions, products and services, all primary and supporting activities. Business activities are defined as activities contributing to the realisation of a product or service to the customer (Sprokholt, Haijenga, & Reijnen, 2021). The OMC aims to develop understanding and a shared vision between the business and technology of an organization. This model is inspired by the Business Model Canvas of Alex Osterwalder (Osterwalder & Pigneur, 2010) and the value chain concepts of Michael Porter (Porter, 1985). It shares the look of the Business Model Canvas, but does not only hold key activities. The OMC is elaborated with supporting activities to create an overview of all business activities of the organization. Through the business activities, it links the business perspective on one hand; and the tech and data on the other hand (Sprokholt, Haijenga, & Reijnen, 2021).

The process of developing a OMC can be divided into three phases: (1) preparation and first draft, (2) developing the OMC and (3) finalisation. The first phase consists of conducting and analysing documentation and conducting surveys and interviews to draft the first version of the OMC based on the collection information. The second phase consists of conducting interactive workshops with the client until all stakeholders agree on the final version of the OMC. Also, a booklet is produced with descriptions of all the elements of the OMC. In the final phase, the OMC and the related booklet are finalized and demonstrated if hoped-for. The final result of the creation of the OMC is a shared vision on business activities for all stakeholders (Sprokholt, Haijenga, & Reijnen, 2021; Reijnen et al., 2018). The base for the OMC can be found in figure 1.



Figure 1: The Operating Model Canvas according to Sprokholt, Haijenga and Reijnen (2021)

2.3 Business Activity Model

As stated in the paragraph above, the OMC is used amongst others to create a shared vision on the business activities of the organisation concerned. To create a common understanding of the *focus* of these business activities, the Business Activity Model (BAM) is used, a model that implements the concept of multimodality (Sprokholt, Haijenga, & Nieuwmijer, 2021). Multimodality is defined as follows: "Business activities can be classified according to two dimensions, which result in a business activity type, a modality. These modalities allow stakeholders in the organisation to collaboratively determine the strategic focus of a business activity. The characteristics of the modality can be used to guide the organisational and technological design of the business activity" [p. 52 (Nieuwmeijer, 2021). There are two dimensions that determine the modality of a business activity: dynamics and differentiation. Dynamics means the strategic choice on how to handle changes in the environment and differentiation means which business activities are distinctive. This results in the BAM, which can be found in figure 2. This model shows there are four different types of business activities. These four different types are called modalities. Each modality has their own color, as can be seen in figure 2. The four modalities are (1) Distinct activities, (2) Specialized activities, (3) Common activities and (4) Adaptive activities (Sprokholt, Haijenga, & Nieuwmijer, 2021).

In practice, this model is used to classify the business activities that are determined in the OMC. A business activity is placed within the model by looking at the differentiation of the activity at the vertical axis and the dynamics of the activity at the horizontal axis. Differentiation refers to whether a business activity is specific or generic. In other words, is the activity focused on standardization and therefore generic or value creation through differentiation and therefor specific. Dynamics refers to whether a business activity is stable and efficient or flexible and responsive to change. The dynamics of activities highly depend on the dynamics of the environment (Sprokholt, Haijenga, & Nieuwmijer, 2021).

The business activity is then placed within one of the four modalities. The result indicates to what measure the activity is specific or distinctive and if the activity is stable or responsive. These modalities allow stakeholders in the organisation to collaboratively determine the strategic focus of a business activity. The characteristics of the modality can be used to guide the organisational and technological design of the business activity (Nieuwmeijer, 2021).



Figure 2: Business Activity Model according to Sprokholt, Haijenga and Nieuwmeijer (2021)

3 Related work

This section provides an overview of the state of the art in literature on boundary spanning and related concepts. First, boundary spanning will be introduced and defined. Second, different types of boundaries identified in literature are described. The third, fourth and fifth subsection will elaborate on boundary spanning roles, boundary spanning objects and boundary spanning activities respectively.

3.1 Boundary spanning

Traditionally, boundary spanning has been defined as the creation of linkages that integrate and coordinate across organizational boundaries (Lane, Maznevski, Mendenhall, & McNett, 2009). For this research, we take the definition of Schotter et al.: "A set of communication and coordination activities performed by individuals within an organization and between organizations to integrate activities across multiple cultural, institutional and organizational contexts" (Schotter, Mudambi, Doz, & Gaur, 2017, p. 404). Boundary spanning is a widely known concept in the business and organizational management literature (Bednarek et al., 2018). A lot of research has been done on boundary spanning, but why is this concept so important in literature and in practice? Dollinger (1984) states that organizational performance is related to the extent to which an organization is engaged in boundary spanning (Dollinger, 1984). Leifer and Delbecq (1978) stress that boundary spanning is important as that the right information needs to reach organizational decision makers in order that the appropriate decisions are made (Leifer & Delbecq, 1978). But to accomplish this, organizations have to work across different inter and intra-organizational boundaries. Especially in global organisations with language, time and location barriers, boundary spanning has emerged as an important capability for the success of the organization (Schotter et al., 2017). But also in smaller companies, boundary spanning in the strategic management provides the firm with an advantage within their market (Dollinger, 1984).

Levina and Vaast (2005) stress that, based on two qualitative field studies, in order to accomplish boundary spanning, a new joint field of practice must emerge. Individuals transform their current practices to local settings to accommodate the interests of their counterparts in other work fields. This eventually results in a new joint field in which these individuals work together. This new joint field will not emerge when individuals are simply nominated a boundary spanning role. Boundary spanning individuals are not distinguished from the rest of the field or department and will voluntarily participate in boundary spanning in practice (Levina & Vaast, 2005). Based on another field study, Levina and Vaast (2006) stress that boundary spanning practices can be placed on a continues scale according to their relative degrees of embodiment and objectification. With respect to embodiment, the habitual production of practices relies heavily on community ties and norms of reciprocity. Relationships are tied to individual "bodies". Objectification on the other hand, involves naming specific relations among agents so that these relations can be reproduced beyond a given interaction. Objects are symbolic representations of practice and relations produced through practice (Levina & Vaast, 2006).

These days, knowledge can even be seen as the most valuable resource of an organization. Employees have an increasing amount of knowledge sources inside and outside of their organization, due to the rapid development of information technology (IT). IT does not only provide a better connection, but also provides quick and effortless access to these information sources (Teigland & Wasko, 2003). IT allows us for sharing of objects without relying on embodied relationships. IT also uses increased visibility of the terms associated with object or information exchange (Levina & Vaast, 2006). Teigland and Waski (2003) indicate there is a positive relationship between boundary spanning communication and creativity and general performance. They also indicate there is a negative relationship between a reliance on co-located coworkers as knowledge sources and creativity (Teigland & Wasko, 2003). The use of IT in organizations can improve boundary spanning but also leads to contingencies. For example, when meetings are only held online or communication is restricted to mail or chat, relationships will remain mere professional and reinforce preexisting intraorganisational boundaries (Levina & Vaast, 2006).

Boundary spanning can be seen as a process that involves four spanning mechanisms according to Hawkins (2012). They add two new mechanisms (boundary practice and boundary discourse) to two previously established mechanisms in literature (boundary object and boundary spanner). Knowledge management literature described boundary practice as a method to develop knowledge. The ability of engaging in practice to co-create knowledge across multiple fields is formalized as a boundary spanning mechanism. Boundary discourse is the content stemming from the dynamic process of engaging in identifying and articulating ideas, gathering knowledge to overcome the knowledge boundary. Boundary discourse deals with the content explicitly expressed when crossing those boundaries. Hawkins (2012) propose to integrate these mechanisms addressing the deployment of the boundary spanning mechanism collectively during the process (Hawkins & Rezazade, 2012).

Strode et al. (2012) state that boundary spanning mechanisms, when successful, increases explicit coordination effectiveness. This was based on a multicase study in software development with teams using an agile development approach. Boundary spanning was looked at as a component of a coordination strategy and the extinction was made between boundary spanning activities, boundary spanning artifacts and coordination roles (Strode et al., 2012). Exactly those three related concepts will be elaborated on in the next subsections. But first, we define the different types of boundaries in literature.

3.2 Boundary types

Boundary spanning is concerned with integration of different working fields. To accomplish this, a boundary has to be crossed. A "boundary" within the business and organizational management literature is defined by multiple scholars (Leifer & Delbecq, 1978; Aldrich & Herker, 1977; Hsiao, Tsai, & Lee, 2012; Schotter et al., 2017; Hawkins & Rezazade, 2012), but for this research we hold on to the definition of, again, Schotter et al. (2017): "distinctive lines that separate what is within an organization and what is in the external environment with which it interacts" (Schotter et al., 2017, p. 406). They also stress that boundaries have two functions: division and identification. A boundary identifies an entity and divides entities from each other and therefore work tasks or responsibilities (Schotter et al., 2017). A boundary protects the members of the system from external influences and regulates the flow of information, material and people into or out of the system (Leifer & Delbecq, 1978).

Jesiek et al. (2018) performed a qualitative systematic literature review on boundary spanning and engineering, as engineers are often expected to span boundaries between multiple stakeholders to come to effective design solutions. Based on their research, they have created a framework with six boundary types, three types of boundary spanning roles and five types of boundary spanning activities. Of course, these types may overlap and interact with each other. The boundary types can be found below (Jesiek et al., 2018). For this research, we hold on to the boundary types of Jesiek et al. The boundary spanning roles and boundary spanning activities will be introduced in subsection 4.3 an 4.5 respectively.

The boundary types as proposed by Jesiek et al. (2018):

- Organizational boundaries are within and across organizations. They separate one organization from others, multiple functional units or even different hierarchical levels within the same unit.
- Occupational, functional, disciplinary and professional boundaries which are concerned with boundaries between individuals, groups or jurisdictions with the same function or occupation. For example, there could be friction between managers and scientists.
- Knowledge boundaries. The idea of knowledge boundaries is often used to more broadly discuss demarcations among multiple specialized domains. A knowledge boundary represents the limit or border of an agent's knowledge base in relation to a different domain of knowledge (Hawkins & Rezazade, 2012).
- Individual characteristics such as demographic boundaries between groups from different cultures and countries, which are especially important in multinationals. But these boundaries can also occur within groups with expatriate employees or between individuals with a different age, gender or ideology.
- Spatial and temporal boundaries focus on employees working in different locations or time zones.

Other scholars have also identified boundary types from different perspectives. Hsiao et al. (2012) made a distinction between knowledge, hierarchical, physical, geographical, social, cognitive, relational, cultural, temporal/spatial, divisional, occupational, and disciplinary boundaries. They indicate boundaries are also social objects shaped by spatial locations, personal identification, patterns of interactions, and legally defined distribution of rights and obligations (Hsiao et al., 2012). Ratcheva (2009) explored how multidisciplinary teams interact to overcome the barriers and take advantage of their 'built in' knowledge diversity. During this research, three project boundaries were been identified: action boundaries, knowledge boundaries and social boundaries. Project actions boundaries lay within the project team and concerns the responsibility to plan, develop and accomplish the project. Project knowledge boundary is formed around the project team, when a need for relevant contextual knowledge is identified in order to develop a better understanding about the contact for which the project's outcomes are targeted for. Project social boundary occurs when team members reach to their social and professional networks for advice, clarification and further articulation. Boundary spanning happens early on in the project (Ratcheva, 2009).

Acharya et al. state that knowledge integration is essential for innovations, but obstacles arise because of knowledge boundaries: syntactic boundary where the challenge is to transfer knowledge, semantic boundary where the challenge is to translate the knowledge and pragmatic boundary where the challenge is to transform the knowledge to realize relational rents (Acharya, Ojha, Gokhale, & Patel, 2022). Carlile (2004) is also focused on boundary spanning to accomplish innovation and developed a framework that describes three progressively complex boundaries: syntactic, semantic, and pragmatic — and three progressively complex processes: transfer, translation, and transformation of knowledge (Carlile, 2004).

3.3 Boundary spanning roles

Individuals play an important role in the effectiveness of boundary spanning (Schotter et al., 2017; Levina & Vaast, 2005; Fisk et al., 2010). These individuals are called "boundary spanners". For this research, we take the definition of Leifer and Delbecq (1978): "Boundary spanners are persons who operate at the periphery or boundary of an organization, performing organizational relevant tasks, relating the organization with elements outside it. They are primarily responsible for information exchange between organizations and its task environment" (Leifer & Delbecq, 1978, p. 40-41). A "boundary spanner" is not a formal status (Tushman & Scanlan, 1981). Levina and Vaast (2005) even state that a formally selected individual that receives the status of "boundary spanner", experiences a distance from the parties involved because of this status. Informal nominated boundary spanners perform better in practice (Levina & Vaast, 2005). Kim and Jarvenpaa (2008) even found that formal boundary spanning mechanism may have a suppressing effect on the process of informal boundary spanning in certain circumstances (Kim & Jarvenpaa, 2008). Also

Barner-Rasmussen et al. (2014) defines boundary spanners as individuals who are perceived by other members of the parties involved to engage in and facilitate significant interactions between these parties (Barner-Rasmussen, Ehrnrooth, Koveshnikov, & Mäkelä, 2014). In other words, a random individual does not become a boundary spanner by his or her own choice and without the right qualifications and support or recognition of others.

According to Levina and Vaast, there are three necessary conditions for an individual to take on a boundary spanning role in practice. (1) Becoming a legitimate participant in the practices of the parties involved, (2) be seen as a legitimate negotiator for the party which the individual represents and (3) develop the tendency to span boundaries between organizations (Levina & Vaast, 2005). But there are more indicators identified by other scholars for successful boundary spanners. Schotter et al (2017) state that a high overlap between the group identity and the perception about the group identity of external agents of the boundary spanner is an indicator for boundary spanning effectiveness. Also, the diversity of organizational context plays a critical role (Schotter et al., 2017). Miller (2008) states that successful boundary spanners have a wide network, are effectively collecting and disseminating information and moving freely and flexibly within and between organizations. They have great social skills and are trusted and respected by all parties involved. They know how to unite different parties around a common cause (Miller, 2008). Tushman and Scanlan (1981) stress the importance of a wide network, internal and external of the organizational field. According to them, boundary spanners have great communication skills and the personal characteristics to facilitate communication between organizations and link their organization to external areas. Colleagues often consult them for new insights and ideas (Tushman & Scanlan, 1981). Jesiek et al. (2018) summarizes these individual competencies and characteristics as communication related skills, coordination related skills, building and maintaining relationships and networks, technical/domain expertise and some personal traits and the ability to go beyond one's own personal view (Jesiek et al., 2018). Barner-Rasmussen et al. (2014) demonstrate that cultural and language skills are an indicator for boundary spanning effectiveness in multinational organizations. Boundary spanners have skills and characteristics that potentially make them not only valuable organizational human capital, but also rare and difficult to imitate (Barner-Rasmussen et al., 2014). Although individuals with the right skills are hard to come by, once they take up the role, boundary spanners can help develop sustainable infrastructures within en between organizations that support continuous boundary spanning (Miller, 2008).

Boundary spanners can be seen as individuals who translate and frame information from one organization to another to achieve coordination (Hawkins & Rezazade, 2012). These individuals can take on different boundary spanning roles. Boundary roles can be seen as the link between the environment and the organization (Aldrich & Herker, 1977). There are multiple types of boundary spanning roles. For this research, we stick to the framework of Jesiek et al. (2018). They identify three themes on boundary spanners in literature. The first theme is "Linking pins", which operate at the boundary itself, for example by linking multiple organizations, linking headquarters and lower departments and linking project teams and their external environment. They are seen as the link between the environment and the organization. Linking pins are sometimes referred to as broker. The second theme is "structural holes". They are the individuals whose networks span the separations between non redundant contacts, or in other words span the structural holes. The third and final theme concerns the formal or emergent boundary spanners as described by Levina and Vaast (2005), as discussed in the first paragraph of section 4.3 (Jesiek et al., 2018; Levina & Vaast, 2005).

Most types of boundary spanners identified by other scholars are in line with the framework of Jesiek et al. (2018) (Strode et al., 2012; Aldrich & Herker, 1977). However, there are some types that are being left out that er worth mentioning. Ancano and Caldwell (1992) identify four roles: ambassador, coordinator, scout and guard. (1) An Ambassador protects his or her team from outside pressure and persuades other people to support the team. (2) An coordinator is coordinating tasks and negotiating with outsiders. Strode et al. (2012), even solely focused on the coordination role in boundary spanning (Strode et al., 2012). (3) A scout is occupied with scanning for ideas and information about the external environment. They also identified the role of "guard", which is concerned with avoiding releasing information. As this role is focused inward and not on boundary spanning, this role was not taken into account (Ancona & Caldwell, 1992). Sturdy and Wright (2011) looked at the clients of management consultancy as boundary spanners. They identified three types of roles: gatekeeper, broker and partner. (1) A gatekeeper decides which external consultants are allowed to work within the organization and acts as a contact, keeping an eye on the delivered quality. (2) A broker is sourcing, managing and protecting the external provider as well as an interpreter of organizational knowledge. (3) A partner acts as a 'contact' client but also collaborates directly with the external consultant in knowledge production and exploration (Sturdy & Wright, 2011). Next to the type of roles, the process performed by boundary spanners can be seen divided in two parts: obtaining information from outside units and disseminating this information to internal users (Tushman & Scanlan, 1981; Aldrich & Herker, 1977). The types of activities performed by boundary spanners will be discussed in section 4.5.

Boundary roles will emerge when crucial environmental contingencies occur within and outside of an organization, or when the organization is innovating with outside help or based on concepts or activities of other organizations. Organizations in rapid changing environments will have a higher amount of boundary spanning roles than other organizations. The same applies to large organizations, which have more spacial and temporal boundaries. If an organization is able to adapt to environmental contingencies depends on the expertise of individuals that take on the boundary spanning role (Aldrich & Herker, 1977).

3.4 Boundary spanning objects

Next to boundary spanners, boundaries can be crossed and organizations can merge by using a common lexicon, meaning, interests or knowledge actors that can serve as potential drivers: boundary spanning objects. These objects help generate relational resources (Acharya et al., 2022). For this research, we take the definition of Hawkins and Rezazade (2012): "A boundary object refers to a physical, abstract or mental object that serves as a focal point in collaboration enabling parties to represent, transform and share knowledge" (Hawkins & Rezazade, 2012, p. 1805). According to Strode et al. (2012) a boundary spanning artifact is produced to enable coordination between organizations. An artifact can be physical or virtual, temporary or permanent (Strode et al., 2012). The use of each boundary spanning object differs based on the level of novelty in the organization (Acharya et al., 2022). Boundary spanning objects help facilitate translation between individuals with different working methods and lexicons (Star & Griesemer, 1989), Notice that some scholars refer to a boundary spanning "artifact" instead of "object", while referring to the same concept. As object is the most widely used name, we will use this here.

According to Orlikowski (2000), it is the continuous use of an boundary spanning object by individuals that gives the object its meaning and generates social characteristics for the object (Orlikowski, 2000). Boundary spanning objects have to satisfy the informational requirements of each of the fields involved in the boundary spanning (Star & Griesemer, 1989). Levina and Vaast (2005) state that for an artifact to become a boundary object-in-use, there must be a joint field within which agents jointly recognize and value the artifact in question (Levina & Vaast, 2005). Experts, or boundary spanning roles, employ boundary objects to be able to work across boundaries. They use these objects for communication, collaboration and problem solving. A boundary object can be employed as a medium to communicate a problem across multiple fields and coordinate the responsibilities for parts of the solution (Hsiao et al., 2012). The boundary spanning object is used to create the "big picture" of the current problem and how this relates to certain individuals or fields. Eventually, the object is used to come to a common understanding and solution for the problem effectively (Gasson, 2006).

3.5 Boundary spanning activities

Boundary spanning activities are defined as "Activities (team or individual) performed to elicit assistance or information from some unit or organization external to the project" (Strode et al., 2012, p. 1231). The nature of boundary spanning activities largely determines whether or not the organization adapts to contingencies. When organizations are uncertain, they are more likely to be open and engage in boundary spanning activities (Leifer & Delbecq, 1978). Of course, different types of activities are identified in literature. For this research, we hold on to the framework of Jesiek et al. (2018), of which the activity types can be found below (Jesiek et al., 2018).

The types of boundary spanning activities as proposed by Jesiek et al. (2018):

- Information and knowledge management is concerned with boundary spanners engaging in gathering and sharing information both across and within boundaries. When sharing information, boundary spanners often act as filters.
- Coordination of teams, tasks and projects. Boundary spanners often take the role of task coordinators who facilitate collaboration and effective problem solving through the negotiation of differences. They also play a key role in mediating conflicts that can come from individual characteristic boundaries.
- Building and maintaining networks is concerned with making and maintaining connections within and outside of the organization. This involves networking activities and building bridges.
- Representing and influencing are two related activities concerned with gaining influence on external actors and representing and protecting internal actors.
- Directionality of activities is concerned with how activities can be directed to the outside environment such as collecting information from external stakeholders, or directed inside the organization such as distributing information. The classification of activities based on directionality is largely limited to formally defined boundaries such as sector, team or project, which means it will be less relevant when spanning other kinds of boundaries such as cultural.

Other scholars also defined multiple types of boundary spanning activities. The types identified by Marrone (2010) lay close to the types of Jesiek et al. (2018). She distinguishes three types of boundary spanning actions or activities in literature: representation, coordination of task performance and general information search (Marrone, 2010). Ancona and Caldwell (1990) also identified four boundary spanning activities, which resemble the boundary spanning roles of Ancona and Caldwell (1992) discussed in section 4.3: ambassador, task coordinator, scout and guard (Ancona & Caldwell, 1990). Leifer and Delbecq created a paradigm in which boundary spanning activities can be divided into four cells, describing a degree of routine of organizational boundary spanning activity. One axis of the paradigm is concerned with the degree to which initiation of boundary spanning is regulated, the other is concerned with the extent of routines of boundary spanning processes or boundary spanners' tasks (Leifer & Delbecq, 1978).

The type of activities can also depend on the environment or market of the organization. Fenell and Alexander (1987) looked at boundary spanning strategies used by freestanding hospitals and hospitals within a chain. They state their are four types of boundary spanning activities engaged by hospitals: two buffering strategies, augmenting administrative structures and augmenting boundary-spanning units, and two bridging strategies, establishing external linkages in either clinical or nonclinical areas. They also state that organizations within a chain or with a membership in a system increases the use of bridging strategies (Fennell & Alexander, 1987). Birkinshaw et al. (2017) studies boundary spanning activities undertaken by the management of a multinational organization. They identifies four boundary spanning activities of which two (spearheading and facilitating) are focused on making connections across boundaries and two (reconciling and lubricating) are focused on overcoming differences in worldview across boundaries. Spearheading is concerned with opening up relationships with external actors. Facilitating involves linking actors within the multinational organization. Reconciling is about helping external actors and managers to understand each other's point of view. Lubricating focuses on helping individuals within the multinational organization to overcome biases and misperceptions about how they might work together. Birkinshaw et al. (2017) show that each boundary spanning activity improves the effectiveness of the network of the multinational organization (Birkinshaw, Ambos, & Bouquet, 2017).

3.6 Summary

There are different types of boundaries that can form an obstacle when having to work between different fields or organizations, such as organizational, functional, knowledge and cultural boundaries. Being able to span these boundaries has been proven to be a wanted skill in organizations, as engaging in boundary spanning has been positively linked to organizational performance. Boundary spanning can be supported by boundary spanning objects, boundary spanning activities and individuals that take on boundary spanning roles. A distinction can be made between different types of roles and different types of activities. Objects can be physical or virtual, can be used to create a common understanding of a concept or problem and are used by boundary spanners.

4 Research approach

As stated in the introduction, the purpose of this research is to contribute to the current state of literature on boundary spanning in practice and to describe how to deploy the OMC and the BAM for boundary spanning in digital transformation. This section will elaborate on the research method to accomplish these goals. For this research, a literature study will be combined with a comparative case study. First, the sub research questions will be introduced. Second, the research protocol will be explained for the both chosen research methods. For the case study, a framework will be introduced in the last paragraph.

4.1 Research questions

This research aims to answer the following Main Research Question:

MRQ: How can the Operating Model Canvas (OMC) and the Business Activity Model (BAM) support boundary spanning achievement in Digital Transformation projects?

To be able to answer the MRQ, first several smaller problems have to be tackled. These problems are divided into three groups of sub questions, which can be identified with a corresponding number. The first group tackles the problem of the state of the art of boundary spanning in the literature. The second group tackles the problem of analysing and comparing the use of OMC and BAM in practice in the selected use cases. The third group splits the main research question into two questions, one for each model. The answers of the first group is used as input for the second group, and so on.

The first group of sub questions provides a definition of "boundary spanning roles" and "boundary spanning objects", different types of boundaries and different types of boundary spanning activities. The answers to these sub questions help create an understanding of boundary spanning and how object can support boundary spanning. These sub questions will be answered based on the literature study. The first group of sub questions is formulated as follows:

SRQ1.1: How are "boundary spanning roles" and "boundary spanning activities" defined in current literature?

SRQ1.2: What type of boundaries can be identified in current literature?

SRQ1.3: What type of boundary spanning objects can be identified in current literature?

The second group of sub questions can be answered with the outcome of the comparative case study. For this case study, the answers from the first group of sub questions on boundary spanning are used as input for the points of comparison. This case study looks at digital transformation projects, which are defined as finished projects from Anderson MacGyver in which the OMC and the BAM are used for supporting the digital transformation process of the concerning organization. The answers to the second group of sub questions provides an overview of the boundary spanning characteristics found in the digital transformation projects and an overview of the stakeholder backgrounds. These questions are formulated as follows:

SRQ2.1: Which boundary spanning characteristics can be identified in digital transformation projects?

SRQ2.2: What are the differences of the stakeholder backgrounds between the digital transformation projects?

The third group of sub questions consists of two questions. Both questions are the same, both each is focused on a different model to make a clear distinction. This distinction is made because it is not expected this question can be answered the same for both models. Both questions provide an description of how the models are currently supporting the digital transformation process of organizations. The answers can be used as input for the MRQ.

SRQ3.1: How is the Operating Model Canvas (OMC) supporting boundary spanning achievement in digital transformation projects?

SRQ3.2: How is the Business Activity Model (BAM) supporting boundary spanning achievement in digital transformation projects?

The MRQ can be answered by combining the answers of the three groups of sub questions. The sub questions 3.1 and 3.2 provide an answer to how the BAM and the OMC are currently supporting the digital transformation process of companies. Combined with the knowledge on how boundary spanning can be supported in general from the literature study, used to answer the first group of sub questions, a concluding prescriptive answer can be given to the question: "How can the Operating Model Canvas (OMC) and the Business Activity Model (BAM) support boundary spanning achievement in Digital Transformation projects?".

4.2 Research method

As stated earlier, two research methods will be used to answer the MRQ: A literature study and a comparative case study. The aim and the protocol of both research methods will be further explained in this subsection.

4.2.1 Literature study

To determine the current state of literature on boundary spanning in practice and answer the first group of sub research questions, a literature study is conducted. The preferred search engine was Google Scholar. This search engine enables access to multiple sources with a student account from Utrecht University. Google Scholar is used because it provides an overview of scientific papers from different sources at the same time, as opposed to most search engines that look at a specific field or journal. The approach for this literature study is a narrative literature review, which summarizes the body of the literature on the specific subject, in this case boundary spanning and related concepts. The following keywords are used for the search engines: "boundary spanning", "boundary spanning defined", "boundary spanning activities", "boundary spanning case study" and "boundary spanning information technology". Next to the use of keywords, the snowballing methodology is applied to the articles that are deemed most relevant. This methodology refers to "using the reference list of a paper or the citations to the paper to identify additional papers" (Wohlin, 2014, p. 1). The outcome of the literature study can be found in section 3.

4.2.2 Comparative Case study

To be able to answer the MRQ and the second group of sub research questions in specific, the use of the OMC and the BAM in practice have to be researched. To do this, a comparative case study will be conducted. This method was chosen because a case study approach allows in-depth explorations of the use of both models in real-life. To be able to look for differences and similarities between cases and contribute to literature with new insights on the influence of these differences and similarities, a multiple case study was chosen.

As the OMC and the BAM are used in digital transformation projects at Anderson MacGyver, the cases for the comparative case study will be selected from their project database. Whenever referring to a "case", this is in practice a digital transformation project from Anderson MacGyver. The data that will be used for the comparative case study can be divided in project documentation concerning either OMC or BAM and expert interviews with stakeholders of each project.

Case selection In total, ten cases are selected for the comparative case study from the project database from Anderson MacGyver. The number of ten is partly based on the scope of the project, as there is a time limit for the collection, analysis and comparison of the data. Also, the theoretical saturation, which is the point where you have learned everything you need to know for your research, will be taken into account. If theoretical saturation is not reached with ten cases and the scope of the project allows it, the case study will be extended until this point is reached. The selection of the ten cases will be made by purposive sampling. This technique is the deliberate choice of one or multiple cases because of the nature of the case. The cases are selected based on the purpose the researchers want them to serve (Bernard, 2017). In this research, the purpose of the case is to be able to be compared to other cases based on the deployment of the OMC and the BAM. Therefore, the cases will be selected based on the following requirements:

- The case is a digital transformation project from Anderson MacGyver.
- The case contains project documentation on the use of both the OMC and BAM.
- The case is finished.
- At least two stakeholders of the case are available for an interview. One from the side of the consultant agency and from the side of the client.

Data collection When the cases have been selected, data about the deployment of the OMC and the BAM have to be collected. This will be done through the analysis of project documentation and semi-structured interviews with project stakeholders. The project documentation will be requested from

Anderson MacGyver. This concerns only documentation regarding the deployment of the OMC and BAM. The questions of the semi-structured interviews can be found in Appendix A.1 and A.2.

Two stakeholders will be interviewed for each case. One stakeholder will be a management consultant from Anderson MacGyver. The other stakeholder will be from the client of Anderson MacGyver in the relevant project. The purpose of these interviews is to determine how the OMC and BAM are deployed and to what extent boundary spanning is achieved. The stakeholders will be asked to give their opinion on both aspects for the case concerned. The interviews will be held through Microsoft Teams due to the current Covid-19 regulations and to simplify the process of making an appointment. The interviews will be recorded and transcribed. The transcripts will be safely stored within the Onedrive of the Utrecht University. The project documentation will be safely kept within the Office environment of Anderson MacGyver.

Data analysis The collected data from each case will first be structured according to a framework for boundary characteristics and boundary spanning characteristics. The framework is based on the literature study on boundary spanning of section 3. It has the construction of a table, in which there is a row to be filled for each case, with the characteristics as input.

The transcribed interviews will be coded according to the methodology described by Miles and Huberman (2014): deductive coding. In other words, each chunk of text from an interview that corresponds in a positive or negative way with a boundary spanning characteristic of the framework, will be given a label (Miles & Huberman, 2014). The labels from both the interviews as well as the project data are structured in the framework. When other boundary spanning characteristics can be derived from the collected data, a characteristic can also be added to the framework and used as a label for the coding process. The codebook for this process can be found in appendix C.

The results captured by the framework will be analysed in two steps: the within-case analysis and across-case analysis.

According to Eisenhardt (1989), within-case analysis involves detailed but simple descriptions for each case. There is no standard for these descriptions, but they support researchers in the beginning of the data analysis process when there are large volumes of data (Eisenhardt, 1989). The within-case analysis provides an overview of the meta-data, the stakeholders of each case and other contextual salient points. The cross-case analysis provides insights in the collected data on the basis of the framework and the occurring trends. The evidence for generalizing these trends across cases will be discussed together with other findings. This two-step approach is chosen because solely focusing on cross-case analysis based on the framework for the case comparison can strip away the context of an individual case. Even though certain contextual salient points could eventually lead to identifying trends that are not included in the framework. By combining within-case analysis with across-case analysis, we are assuring each case is looked at individually before comparing the collected data of the cases (Ayres, Kavanaugh, & Knafl, 2003).

Framework The initial structure of the framework can be found in figure 3. The purpose of this framework is to create an overview of the boundaries and boundary spanning characteristics that occur, or do not occur, in the digital transformation projects of Anderson MacGyver. This overview will be used for the final case comparison.

The characteristics from the framework are mostly based on the framework of Jesiek et al. (2018), who conducted a systematic literature review on boundary spanning and related concepts. As their research provides a great overview on literature on boundary spanning and was conducted quite recently, their framework has been chosen to use as a basis (Jesiek et al., 2018). It has been supplemented with other research, where the framework was insufficient for the current goal: create an overview of the boundary spanning characteristics that occur, or do not occur, in the digital transformation projects of Anderson MacGyver.



Figure 3: Framework structure

First we collect the meta-data of each case. This includes the project purpose, organization size, roles of the interviewees, project stakeholders and stakeholder backgrounds. This data will be retrieved from the project documentation and completed with data from the interviews if necessary. The general information that is taken into account can be found in table D1 in appendix D.

The conceptual framework focuses on the occurrence of boundary spanning and related characteristics and can be found in table 2 in appendix C. The framework can be divided into three parts: (1) boundary characteristics, (2) boundary spanning characteristics and (3) boundary spanning occurrence.

Boundary spanning does not occur when there are not any boundaries to span or fields to connect. Therefore the conceptual framework provides insight into what type of boundaries exist within the specific case and which fields are involved. This part can be found in table D2 of appendix D. Next, we look for boundary spanning characteristics in each case. First, the boundary spanning roles taken on by individuals are determined if present in the case. For this, we take the boundary spanning roles of Jesiek et al. (2018) and Ancona and Caldwell (1992): linking pins, structural holes, ambassadors, coordinators and scouts (Jesiek et al., 2018; Ancona & Caldwell, 1992). Then, we determine if the BAM and the OMC were used as boundary spanning objects. To do this, the models in practice have to satisfy the checklist based on literature from chapter 3 (Acharya et al., 2022; Strode et al., 2012; Hawkins & Rezazade, 2012; Levina & Vaast, 2005):

- The object is continuously used by boundary spanning roles.
- The object is used to create a common understanding of a concept.
- The object enables communication, collaboration, coordination or problem solving.
- The object satisfies the informational requirements of each field involved and facilitates translation between individuals.

Once this is established, we continue by looking at activities which are supported by one or both models. These activities are also categorised according to the framework of Jesiek et al. (2018): information and knowledge management, coordination of teams, tasks and projects, building and maintaining networks, and representing and influencing (Jesiek et al., 2018). These first four characteristics are filled in by looking at both project documentation and interview transcripts. After this, we determine if boundary spanning was achieved within the digital transformation project in general. At last, it is determined which parts of the project were crucial to achieve boundary spanning. The final two characteristics will be retrieved from the interview transcripts, as the achievement of boundary spanning can only be determined by the stakeholders or consultants. Deriving this from project documentation depends to a large extent on the opinion of the researcher and is therefore not reliable. The conceptual framework with definitions and exemplary quotes can be found in figure D3 of Appendix D.

5 Results

This section includes the results of the case study and is divided into two subsections: the within-case analysis and cross-case analysis. The within-case analysis provides an overview of the meta-data and the stakeholders of each case. Of each case, a short analysis will be made. The cross-case analysis provides insights in the collected data on the basis of the framework and the occurring patterns. The results of the within- and cross-case analysis are used as input for the discussion and conclusion.

A concept is considered to be a pattern when it is present in 70% or more in the cases. As this case study has a considerable low sample size concerning the interviews, which is discussed as a limitation in section 7, a pattern is seen as significant when it is present in 90% to 100% of the cases. However, due to the chance of a deviant opinion of the interviewees from the project they represent, the bar is set at 70%. For example, when there is a "coordinator" as boundary spanning role present in each case, but due to a different viewpoint of an interviewee on the clients side or other cause, this is not noted.

5.1 Within-case analysis

Before we start with the case comparison, we first look at each case individually. In this subsection, we look at the meta-data that is collected and outline the stakeholders for each case.

	Project purpose	Project size	Interviewee role AMG	Interviewee role client
Case A	IFS implementation	Complete company	Consultant	Manager Innovation
Case B	Benchmarking	Supporting departments	Consultant	Director data management
Case C	Create futureproof application landscape	Complete company	Consultant	Chief Financial Officer
Case D	Determine IT strategy to align with business ambitions	Complete company	Consultant	Product owner business planning
Case E	Determine strategy to become digitally future proof faster	Complete company	Consultant	Director Mission Control & People
Case F	Centralise IT departments	Supporting departments	Consultant	Head Business Technology Organization Customer
Case G	Determine IT strategy te become future proof	Complete company	Lead consultant	IT manager
Case H	Implement ERP system	Complete company	Consultant	IT director
Case I	Harmonising activities	Supporting departments	Consultant	Director of Administrative Shared Service Centre
Case J	Outsourcing activities	Complete company	Lead consultant	Managing director

Table 1: Cases overview

Table 1 provides an overview of all ten cases for the comparative case study in terms of project purpose, project size and the role of both interviewees. All organizations are anonymized due to privacy constraints. The cases are shortly introduced underneath and why they are labeled as digital transformation projects. For repetition, digital transformation is defined as "the use of technology to radically improve performance or reach of enterprises". The OMC and the BAM were deployed in each case. An overview of the stakeholder fields of each case can be found in figure 6 and the background of the interviewees can be found in table 2. For each interviewee it is determined if they have a background in IT or in Business.

Case A Case A is a project of an organization that wanted to implement new IFS (Industrial and Financial systems). With the new IFS system they wanted to establish a new way of working, which includes the complete company regarding to project size. Anderson MacGyver is included to construct and lead this process, as there was a necessity to change and reduce costs in order to keep and expand their partnerships. The OMC was deployed to create an overview of the company and it's business activities. The BAM was used for further IFS implementation choices on, based on the focus of each business activities. This case is considered to be a digital transformation project as new technology; IFS system, is needed to improve the performance and reduce the costs of the company which corresponds to the definition of digital transformation. One of the consultants of Anderson MacGyver has been interviewed and the Innovation Manager from the organization.

Case B Case B concerns an organization that has included Anderson Mac-Gyver to benchmark their IT department. This implies they would like an overview of their IT department structure in terms of division, investments and FTE in comparison with other organizations within the same branch. The OMC was deployed to create an overview of the company and it's business activities. The BAM was used to create a common vision of the focus of each business activity and, for example, also include these in the benchmark by showing which focus includes the most FTE or investments. The project size is set to supporting departments as the assignment of bench marking concerns only the IT departments. Eventually this benchmark is used to redesign their IT departments to improve their overall performance and pricing towards the customer within their market. Therefore, this case is considered to correspond to digital transformation. For case B, the director of data management has been interviewed from the organization and one of the consultants of Anderson MacGyver.

Case C Case C is a project in which organization C had determined that the IT support systems were insufficient. They included Anderson MacGyver to enable digital transformation. Anderson MacGyver was asked to create a future proof IT application landscape in which the divisions of the organization could work independently and continuity is ensured. The OMC was deployed to create an overview of the company and it's business activities. The BAM was used to create a common vision of the focus of each business activity and use this to determine the system or supporting system that is fit for this focus. This includes the complete company. From Anderson MacGyver, one of the involved consultant was interviewed and from the organization the Chief Financial Officer was interviewed.

Case D Case D concerns the second phase of a longer project. The first phase was to determine the IT ambition in line with the business ambitions. The second phase concerns defining the exact strategy to achieve these ambitions. Anderson MacGyver was included in both phases. This strategy includes how the use their current and new technology or supporting systems to improve their performance and achieve their business ambitions. Therefore case D is seen as a digital transformation project. The OMC was deployed to create an overview

of the company and it's business activities. The BAM was used to create a common vision of the focus of each business activity and use this to determine where the match with technology and business activity could be improved. From the organization, the Product Owner Business Planning was interviewed and from Anderson MacGyver, a consultant was interviewed. The stakeholders of case D in figure 6 are partly named as "IT leads internal clusters", as naming each specific cluster could lead to identification of the organization. But the important thing to notice in the stakeholder field of case D is that they are all IT cluster stakeholders and therefore only the supporting departments are included in the size of the project.

Case E Case E is a projects in which an organization wanted to become future proof faster, as they noticed they were not moving fast enough to fulfill their ambitions concerning digitization. Therefore they included Anderson MacGyver to determine a strategy to achieve this and included the entire company. The OMC was deployed to create an overview of the company and it's business activities and show possible bottlenecks in their business structure. The BAM was used to create a common vision of the focus of each business activity and use this to determine where the match with technology and business activity could be improved. This case corresponds to digital transformation as they changed a part of their business structure and IT/technology structure to improve the expansion of the company's reach within the digital side of their market. A consultant from Anderson MacGyver was interviewed about this case and the Director Mission Control & People from the organization.



Figure 4: Stakeholder field per case

Case F Case F concerns an organization that wanted to centralise their IT departments to realise their plans to become more efficient and effective regarding their products and services. To achieve this, Anderson MacGyver was included and advised on changing their IT structure and use of technology. The OMC was deployed to create an overview of the company and it's business activities. The BAM was used to create a common vision of the focus of each business activity and use this to determine which activities and corresponding technologies can be centralized together. Case F is a digital transformation project as their new IT structure and technology was set in motion to improve the performance of the company. There was some necessity to achieve these goals as their was a new investor that was interested in their future strategy. This project only included the supporting departments of which mostly the IT departments. The Head Business Technology Organization Customer was interviewed, as well as one of the consultants of Anderson MacGyver.

Case G Case G is a project to set up a IT strategy as a result of digitization within the market of the organization. There was a necessity to adapt to market in order to keep their position. Anderson MacGyver got the assignment to set up a strategy that would be used as a guideline for the coming IT projects and support the long term business strategy of the complete company. The OMC was deployed to create an overview of the company and it's business activities and was used to show possible future bottlenecks. The BAM was used in a later related project to create a common vision of the focus of each business activity. As the performance of the company improved due to creating a new business structure and the deployment of new IT systems to support their new way of digital working, case G is seen as a digital transformation project. For this project, the lead consultant of Anderson MacGyver was interviewed, next to one of the IT managers of the organization.

Case H Case H concerns an organization that wanted to select and implement a new ERP system. Anderson MacGyver was included to co-create an ICT roadmap for this implementation. The OMC was deployed to create an overview of the company and it's business activities. The BAM was used to create a common vision of the focus of each business activity and use this to determine where the match with technology and business activity could be improved. This included the complete company as it also changed their processes and the structure of the company. As the implementation of a new ERP system will change their way of working and is meant to improve the overall performance, case H is seen as a digital transformation project. The IT director of the organization was interviewed, as well as a consultant of Anderson MacGyver.

Case I Case I is a project with the goal to create a shared vision on possible improvements and a strategic plan to take advantage of this to be able to support the ambition of the organization. The OMC was deployed to create an overview of the company and it's business activities. The BAM was used to

create a common vision of the focus of each business activity and use this to determine where the match with the current information system and the business activity could be improved. This project concerned only the supporting departments and not the primary departments that create their business value. Within the supporting departments, there was the need to harmonise activities to be able to keep supporting the primary departments. As the IT structure of the supporting departments is being adjusted to keep up with the ambitions of the organization and keep performing, case I is considered a digital transformation project. A consultant from Anderson MacGyver was interviewed and the Director of Administrative Shared Service Centre.

Case J Case J concerns an organizations that was reorganizing and wanted to outsource their common activities and specialize in their organization specific activities to be able to keep up with the growing demand of their services. The BAM was used to create a common vision of the focus of each business activity and use this to determine which activities and corresponding technologies can be harmonized together. This included the complete company and Anderson MacGyver as external consultants, as there was a moderate necessity to achieve these goals. Case J is a digital transformation project as the company had to improve their performance to keep up with demand and therefore changed their structure and reached out to new IT partners for certain business activities. For this project, the lead consultant of Anderson MacGyver was interviewed, as well as the last and new Managing Director.

	Background consultant	Background client
Case A	Business	IT
Case B	Business	IT
Case C	IT	Business
Case D	Mix	Mix
Case E	Business	IT
Case F	Business	Business
Case G	IT	Business
Case H	Business	IT
Case I	Mix	Business
Case J	Business	Business

Table 2: Interviewees background

Table 2 provides insight into the backgrounds of the interviewees. These are classified into "Business", "IT" or "Mix". Mix stands for a mix of business and IT, for example a consultant with a degree in both fields and experience in an IT team as well as management functions. These three classifications were chosen because digital transformation projects are concerned with both business and IT. When we look at the definition of digital transformation: "the use of technology to radically improve performance or reach of enterprises" we can also identify a business component: "performance or reach of enterprises" and an IT component: "the use of technology". So for each case, the background of the interviewees is taken into account, as business and IT people each have their own perspective on a digital transformation project. All cases have a mix of both perspectives, except for case F.

5.2 Cross-case analysis

To be able to compare the cases on several characteristics, the results of the interview coding process are displayed in tables in this subsection. This is divided into four subsections: boundary characteristics, boundary spanning characteristics, boundary spanning occurrence in correspondence with the conceptual framework presented in section 4.2.2 and case comparison. The results will be shortly described and observed patterns will be pointed out. These patterns and there possible explanations will be discussed. In the case comparison section, the cases will be then be ordered in terms of support of boundary spanning in the shape of the OMC and the BAM. The argumentation behind this order will be explained. Finally, three main indicators for the OMC or the BAM to support boundary spanning activities that are identified in this research will be discussed.

5.2.1 Boundary characteristics

Table 3 shows an overview of the boundaries that are present in each case. When the corresponding box is colored light purple, it indicates this type of boundary is present within the case concerned. A more in depth overview of the boundaries within each case can be found in Appendix E. There, the presence of a boundary is supported with a quote as validation.

Concept	Subconcept	А	В	С	D	Е	F	G	Н	Ι	J
Boundary	Organizational										
	Functional										
	Knowledge										
	Individual										
	Spatial and temporal										

Table 3: Boundaries results

Two patterns can be observed when looking at table 3. Within each case, an "organizational" boundary and "knowledge" boundary is present. In other words, both boundary types are present in 100% of the cases. The "functional" boundary, is only present in 20% of the cases, while the "individual" boundary is present in 50% of the cases and the "spatial and temporal" boundary in 40%.

When looking at the two patterns concerning the type of boundaries, we can state the following. When an organization hires a consultation office, in this case Anderson MacGyver, they often have a problem or challenge on which they need external advice. These challenges are related to organizational and knowledge boundaries and not to functional, individual or spatial or temporal boundaries as these last three types can be resolved without the need of consultants. The "project purpose" was also coded in each interview and these did not include any functional, individual or spatial or temporal boundaries and often overlap with the lines coded to organizational or knowledge boundaries. One example of an organizational boundary-, followed by one example of an knowledge boundary that corresponds to the case assignment of Anderson MacGyver can be found below.

[Case I, consultant] So, there you really have a distinction between a club that creates the policy, which, let's say, write policy and strategy and what we have to do. And a executive club that is just doing the job and that doesn't quite agree with the policy either. With this construction, there is also an extra step or obstruction in between.

[Case F, client] The reason was that I had no vision for this department. When I came in there was no vision of how commerce in relation to IT would develop. And if you want to stay on course, if you want to know where you are going, then you have to add color to that vision, start creating it. So we organized all kinds of workshops to establish that vision.

Below you can also find examples of one individual boundary and one spatial and temporal boundary that do not correspond to the case assignment.

[Case C, consultant] And, for example in the field of technical service, technical projects. That person has since retired, but you just noticed that he was very dependent on the direction of his old solution, and that he was actually defended it and that he was very difficult in operating towards the future. There could be a new way of working, which may imply that you also have to replace the system. Well, so you notice a field of tension there, huh.

[Case C, client] In our case it was, it was a bit hindered by the fact that we did that completely during COVID. So we did all that online using, well, the tools that AMG had available. We have used Mural a lot. Lots of off scrolls, but I think the process would certainly have been even better if we could have just done that in a conference room with a whiteboard and some other stuff.

5.2.2 Boundary spanning characteristics

Table 4, 5 and 6 provide an overview of the boundary spanning characteristics that are present in each case. The observations that can be made with each table are described in this paragraph.

Concept	Subconcept	Α	В	С	D	Е	F	G	Н	Ι	J
Role	Linking pin										
	Structurale hole										
	Ambassador										
	Coordinator										
	Scout										

Table 4: Boundary spanning roles results

Boundary spanning roles Table 4 contains the boundary spanning roles in each case. When looking at the table, we can observe one pattern. The role of "linking pin" is present within 100% of the cases, which indicates that each case contains one or multiple persons that operate at the boundary itself and link multiple fields together with the external environment. The role of "structural hole" is present in 20% of the cases and the same applies to the role of "ambassador". The role of "coordinator" was found in 10% of the cases. The role of "scout" is not present at all. An overview of each case separately can be found in Appendix F.1.

The pattern of "linking pin" could be explained due to the fact that a consultant automatically takes or tries to take on the role of a linking pin, as the challenge of the consultant is to span an organizational or knowledge boundary. Which is supported by the quote below.

[Case C, client] And then it's nice if you have someone who has a lot of experience in, in particular those sub-areas of project management and also, let's say, the IT implementation thereof, who you can simply use as a beacon and also as a coach in the organization of your own project.

However, a linking pin can also be someone from the clients side of the case. When looking back at the results, in case E, H, I and J, one of the linking pins concerned one or multiple persons on the clients side as can be seen in the quote beneath.

[Case J, consultant] And that one, and person X gave the assignment to AMG and he was very good at it and took his management team with him during this assignment. And that team took everyone else with them.

Most of the stakeholders that represent a field from the clients side, are managers or directors. These are people who are used to operate at a boundary between multiple fields. For example between multiple departments or between the board and their own team. The definition of a linking pin includes "they operate at the boundary itself" which corresponds to the people in a management or consultant role who span the boundaries as a linking pin.

Concept	Subconcept	А	В	С	D	Е	F	G	Н	Ι	J
Activities	Information and knowledge management										
	Coordination of teams, tasks and projects										
	Building and maintaining networks										
	Representing and influencing										

Table 5: Boundary spanning activities results

Boundary spanning activities Table 5 shows an overview of the boundary spanning activities found in each case. One pattern can be observed when looking at the table. The activity "information and knowledge management" is present within 100% of the cases. The activities "coordination of teams, tasks and projects", "building and maintaining networks" and "representing and influencing" is present in 10% of the cases. The two last named activities are both only present in case I. An overview of each case separately can be found in Appendix F.2.

When working with the OMC and the BAM within a project, it is standard procedure to apply both models during a sequence of workshops, as explained in chapter 2. These workshops are seen as boundary spanning activities by the interviewees. They fit under the term of information and knowledge management as the workshops have the goal the gather and share information across and within boundaries. The quote below demonstrates what kind of information they gathered and shared during a workshop.

[Case A, consultant] So we've had workshops within those business units and I think we've had two workshops where everyone was together, so, during all the work, everyone together. Just so that we could exchange with each other what our concerns were, what we thought of it. That people also heard from each other, where the pain is at, what we agreed on. Well, all that was done during the workshops in which the OMC's were leading.

Concept	Subconcept	Α	В	С	D	Ε	F	G	Н	Ι	J
Boundary spanning object OMC	Used by roles										
	Common understanding										
	Enabling										
	Translating										
Boundary spanning object BAM	Used by roles										
	Common understanding										
	Enabling										
	Translating										

Table 6: Boundary spanning objects results

Boundary spanning objects Table 6 can be divided into two parts. The first part shows the extent to which the Operating Model Canvas (OMC) matches the characteristics of a boundary spanning object in each case. The second part shows the extent to which the Business Activity Model (BAM) matches the characteristics of a boundary spanning object in each case. One remark has to be added to the subconcept of "used by roles". As the OMC and BAM are per definition used by the consultants of Anderson MacGyver which are seen as linking pins in 100% of the cases, this subconcept is only seen as present when it is used by a boundary spanning role from the client's side. Concerning the OMC, the following two patterns can be observed. The OMC creates a "common understanding" and facilitates "translating" in 100% of the cases. The OMC is "used by roles" in 30% and "enabling" in 60% of the cases. Concerning the BAM, the following three patterns can be observed. The BAM creates a "common understanding", is "enabling" and facilitates "translating" in 100% of the cases. The BAM is "used by roles" in 30% of the cases. What stands out is that both models are "used by roles" in case A and case H. An overview of each case separately can be found in Appendix F.3.

5.2.3 Boundary spanning occurrence

Table 7 and 8 provide an overview of boundary spanning achievement in combination with the continuous use of the models and what is seen as indispensable to this achievement. Again, the observations that can be made with each table are described in this paragraph.
Concept	Subconcept	А	В	С	D	Е	F	G	Η	Ι	J
Boundary spanning achievement											
Continuous use						А					

Table 7: Overview boundary spanning occurrence and continuous use of both models

Table 7 shows if boundary spanning has been in achieved, or in other words, if the boundaries that were identified in the case which are demonstrated in table 3, are spanned. Table 7 also shows if both models are still used after completion of the project. When the corresponding box is colored light blue, it indicates that only one of the interviewees stated the concept to be present. When the corresponding box is colored dark blue, it indicates both of the interviewees state the concept to be present. There were no cases in which only the client-side interviewee indicated a concept to be present. Which means that the light blue box corresponding the case E, is stated by the consultant, which is denoted with the letter "A" of Anderson MacGyver. As can be observed from table 7, in 100% of the case, boundary spanning was achieved. In 50% of the cases, both models are continuously used after completion of the project. An overview of each case separately can be found in Appendix F.4.

Based on the interview results, we can conclude that the OMC corresponds to three characteristics of a boundary spanning object: common understanding, enabling and translating. We also found that the BAM corresponds to three characteristics of a boundary spanning object: common understanding, enabling and translating. When comparing the patterns of the OMC as boundary spanning object and the BAM as boundary spanning object, it stands out that that the OMC is more consistent in creating a common understanding and enabling (100% of the cases) while the BAM is not (respectively 70% and 80% of the cases). This finding can be explained with the help of the following two quotes:

[Case F, client] To my taste. It's not quite that, they don't make it completely clear in their way of working, huh. But also in the notation, how they bring it, What they mean exactly when it comes to the color. Are you talking about the business activity or are you talking about the IT systems corresponding to the activity? That's very vague. What they say very often, but don't do is pretend they are talking about the business activities.

[Case C, consultant] Yes. Um, I have to say I think that sometimes, because you validate it a lot and then, we think it's this, you're not always sure if people really understand what the point is. So we really did, also in the explanation, guys, okay, we first indicate what multimodality means. We have also given everyone the white papers to read, to work in. And that is what is actually used to come to the coloring of the business activities. And the validation itself actually went quite smoothly.

Both indicate that, as the BAM is build on the concept of multimodality that is new to the client, it takes more time and effort for the client to understand multimodality in certain cases. This could explain the inconsistency of the BAM corresponding to common understanding and translating in comparison with the OMC.

The fact that boundary spanning is achieved in each case can be supported by the following two quotes. The first quote demonstrates the spanning of an organizational boundary and the second quote of a knowledge boundary. The continuous use of both models in half of the cases will be further elaborated on in section 5.2.4.

[Case A, consultant] I think the project is definitely successful, because company A was able to get that contract. So they have also succeeded in reducing the costs. I think it has become a different company. They also work in a different way, have really started to work differently.

[Case B, consultant] Because we also told them that they do spend more on IT than average. And I think they expected that. This is of course visible in the figures. But I do think some of those department managers are really shocked at how far above the benchmark they stand. So I guess uh, but they did take it really well in the end. So you saw, she thought for a moment like oh, shit. Then they take a moment. But uhm, I think they were subconsciously aware that they were working with way too many men.

Indispensable	А	В	С	D	Е	F	G	Н	Ι	J
OMC		Α	Α	Α	Α	С				С
BAM		А	А	А	Α	Α	А		Α	С
Boundary spanning role		А			Α	С				
Boundary spanning activity			А	С		Α		А		
Boundary spanning object										
Other				Α	С	Α	С		С	С

Table 8: Overview indispensable concepts for boundary spanning

Table 8 provides an overview of the type of concepts that were seen as indispensable by the interviewees. As with table 7, the light blue box indicates only one of the interviewees, denoted by the letter "A" for the consultant and the letter "C" for the client, states this type of concept is seen as indispensable, and the dark blue box indicates both interviewees state this type of concept is seen as indispensable. An overview of each case separately can be found in Appendix F.5.

When looking from the consultant' perspective, the OMC is seen as indispensable in 60% of the cases and the BAM in 80% of the cases to achieve boundary spanning and indirectly, project success. Boundary spanning roles are seen as indispensable in 60% of the cases, boundary spanning activities in 30% of the cases and "other" concepts in 40% of the cases. When looking from the client' perspective, the OMC is seen as indispensable in 40% of the cases and the BAM in only 30% of the cases to achieve boundary spanning. Boundary spanning roles are seen as indispensable in 50% of the cases, boundary spanning activities in only 10% of the cases and "other" concepts in 30% of the cases.

What stands out is that, from the client perspective, the OMC and the BAM are not or in lesser extent seen as indispensable to boundary spanning in comparison with the perspective of the consultant. Only in case H, both the consultant and interviewee of the client's side checked the box for both models. Consultants also refer more often to the importance of boundary spanning roles and boundary spanning activities respective to the client's side. "Other" concepts were referred to as indispensable to the same extent. As can be seen in appendix F.5, these concepts are often the open attitude or involvement from the client side, the explicit ownership or inclusivity of the project. Also, there were no other boundary spanning objects identified in the cases from either side.

When looking at the concepts that are seen as indispensable to boundary spanning, no patterns could be observed from only the client's side. However, when combining the perspectives from the client and consultant, we can state that the OMC and BAM er seen as indispensable to boundary spanning, together with the efforts of boundary spanning roles and other concepts. Even though this is the case, as the consultants of Anderson MacGyver are per definition trained in using and propagating these models, only the results of the client interviews will be used with regards to determining if both models are seen as indispensable. And in that case, both models are not seen as indispensable to boundary spanning. To further explain the "other" concepts found that support boundary spanning, two quotes can be found below.

[Case E, client] This was brought with a certain calmness. And a certain detachment. We've already had a partner who tried to do the same exercises and was very passionate about it with more drive from you to adapt like that or if you don't, then in the long run it will. And so on and so on. But AMG has brought that very business-like. We see a challenge here, because of this, so that can be the result. Yes, we see a structure here, but those are the strengths of Case E. (...) So those are two factors for me that have worked very well, being the very professional, calm approach.

[Case J, client] I think the latter, that open attitude, but person J worked very hard on that, especially to make sure that we were going to do that and that run-up, that was important. This also took the time.

The two quotes show an example in different cases in which it is mentioned that either a certain attitude, in this case professionality, of the consultant or an open attitude of the client is seen as indispensable. So it should noted that the attitude of both sides can be a supporting factor.

5.2.4 Case comparison

Even though the observed patterns show which concepts are present in the case study, to be able to answer the main research question, we have to look at the differences between the cases. The cases in which boundary spanning is achieved, one or both models is seen as indispensable and there is a continuous use of both models should be compared to the cases where this is the case to a lesser extent. To be able to do is, the cases have been ordered from cases in which both models are seen as boundary spanning objects to cases in which they are not. This is demonstrated in figure 7. The reasoning behind this order will be explained. There are three main indicators identified that contribute to the OMC and BAM being able to support boundary spanning, which will be discussed in this subsection and are also displayed in figure 7.



Figure 5: Sequence cases with respect to the OMC and the BAM supporting boundary spanning

On the left side of figure 7 in the blue compartments, the new sequence of the cases can be found. On the top you can find the cases in which the OMC and the BAM are supporting boundary spanning to greater extent and at the bottom to a lesser extent or not at all. The sequence of the cases is determined by the following factors: boundary spanning achievement, the continuous use of both models and the combination of the OMC as indispensable and the BAM as indispensable. When two or more cases comply to the same amount of factors, the amount of boundary spanning object characteristics (BSO's) that are met by the OMC or the BAM is decisive. For example, case F and G both comply with boundary spanning achievement, continuous use and the OMC as indispensable. But when looking back at table 6 in section 5.2, case G complies with 4 BSO's of the OMC and 1 BSO of the BAM while case F complies with 3 BSO's of the OMC and 1 BSO of the BAM. Therefore, case G is higher in the ranking than case F. On the right side of figure 7, you can also find the determining factors. When the factor is present, it is displayed by a green checkmark.

As mentioned in the introduction of this subsection, we have to look at the differences between the cases. This new sequence provides the opportunity to compare each case. What factors have influence on the OMC and the BAM being able to support boundary spanning within digital transformation projects? When looking back at the collected data from the interviews, three factors can be identified that are related to both models being able to support boundary spanning. These factors are also displayed in figure 8 and are discussed one by one.



Figure 6: Factors OMC and BAM as support boundary spanning

The first factor identified from the case comparison, is that the OMC and the BAM both have to be "used by roles". In other words, both models have to be used by individuals that take on a boundary spanning role on the client's side. Case A and case H, which are at the top of the sequence, both have an individual from the client's side that propagates both models within their organization. Case G, which has the third position in the sequence, only the OMC is used by roles. For an example, take a look at the quote beneath.

[Case G, consultant] So we weren't quite there yet... Of course we had already used post-its in those workshops, didn't we. Nowadays it often goes through screens, but that was really still, uh, all kinds of things with us, huppakee, printing and. So we were like, uh, it was workshop six or seven and the OMC looked pretty good indeed. He says, can I take it with me? Because I have the supervisory board meeting in a minute. And I already want to use it.

Figure 8 shows that the cases in which both models were used by roles, all four factors that determine if the OMC and the BAM are supporting boundary spanning are complied to. It stands out that in case G, only the OMC is "used by roles" and only the OMC is seen as indispensable as opposed to the BAM. Even though in case F, neither models are "used by roles", the interviewee from the client's side states the importance of boundary spanning roles.

[Case F, client] Look, in my view the most, so to say, indispensable in this kind of trajectory are the pullers, the people who are crazy enough to start this. And who are also passionate about this, because, on such a vision then both create and execute. So in any business you have to have a madman sticking his neck out. It is indispensable, because otherwise you will not get it done. And the second thing that's really indispensable is that that crazy one, say, it could be some crazy people. They must be able to connect with the stakeholders. So they must be able to take the stakeholders along with them in their ideas and they must be able to entice them to take advantage of that. For me, these are the two most important elements to make up for this success. You have to show leadership and guts to get going. So you have to stand up and you have to get the people on board. You have to connect. If you don't have these two things Fiep, you are mainly concerned with yourself.

The second factor that comes forward when comparing the cases, is the necessity or urgency of the problem related to the project purpose. Four out of the top five cases of the sequence all had a certain necessity for change within their organization. The other cases did have a challenge in their project purpose, but without timely urgency or an indirect urgency. Beneath you can find a supporting quote for each case.

[Case A, consultant] We had the assignment, the reason is a request for quotation from company X. Company A therefore had to achieve a very large cost reduction to ensure that they could win that order. This assignment was strategically important for company A. Because the turnover that X makes at company A is of such an order that it would endanger the direct continuity of the company if that order did not end up with company A.

[Case G, consultant] Part X of the market crashes like an idiot and is completely replaced by X and digitization. In 2013, she already saw changes like X. You had such a line *points up* and you had such a line *points down*. Yes, and for me that is often two of our IT strategy. Consequences actually, that she translated that and you are therefore a new company and you are the best X provider. And then all those business units have to make a contribution. And then the new company G was created. And then also, so this was also the first IT strategy for the entire company. Those X make his strategy. It is an IT strategy because it had its own IT department. Company G had, etc. That it was quite fragmented. This was really the big move. Uhm, and that's why there was just a lot of management attention.

[Case F, client] And what was the importance? The project was created because when we were taken over by company X. And they said, company F's infrastructure looks great, so to speak. Only this club has no vision for the future. So if we are going to put money into this, we don't really know, say, what the future of company F will be. So what they discussed in those conversations during the take-over, was that there was a lot on the table. And if the CEO of company F who was selling the place said shit, then we really have to tell you very quickly what exactly it is, what our vision for the future is.

[Case J, consultant] But the core problem was actually what they said, or the core question to us. So we want to be agile, reliable and we do a lot ourselves and we are unable to meet the wishes of the organization properly or insufficiently. The customers are relatively dissatisfied and the delivery times are too long. So we want to outsource. So we want to put some of the activities that we do ourselves on the market. And uh, well and ask us to do that.

The last factor identified in the case comparison is a bit harder to grasp, but certainly important to mention. This concerns the concepts that are seen as indispensable and are coded with "other" as can be found in table 8 of section 5.2. The open attitude towards possible solutions to the problem related to the project is mentioned as indispensable to boundary spanning in case C, D, I and J. Even though these cases are in the middle or at the bottom at the sequence, this factor is considered as an influence to the OMC and the BAM as support of boundary spanning, as boundary spanning is still achieved in each case and case J and case C also comply to more aspects. Two quotes can be found underneath as an example.

[Case D, consultant] What has helped enormously here I think is the honest open attitude of everyone. So ordinary, it is seriously challenged, but it is with the idea of coming up with a solution together. Is everything, a lot has simply been discussed there.

[Case I, client] No, we didn't have a hidden agenda. And as a result, we have not tried to adjust the output. We really just wanted to have, uh yes, independent advice. Based on own input from the workshops, but set against the image from outside.

Two other "other" concepts that were mentioned in two different cases, were the professionality of the consultants and the prestige of an external party in the form of a consultancy. There were multiple concepts mentioned only once: continuity during a project, trust/proven success, prioritization, inclusivity in the project's scope, the involvement of the business side of the company, conversion to execution, setting goals and a systematical approach apart from the models.

6 Discussion

This section will look at the scientific and practical implications of the findings discussed in the previous section and the limitations of this research.

6.1 Scientific implications

Before looking at the found patterns and their possible explanations, it is important to take a step back and look at the concept of boundary spanning in general. Boundary spanning can not take place if there aren't any boundaries. Within this study, each case had at least two types of boundaries that were present. These boundaries were related to the project purpose or assignment and therefore essential to overcome to make the project succeed. This confirms the importance of boundary spanning for organizations, as it is related to project success or performance. This corresponds with the thoughts of Leifer and Delbecq (1978), Dollinger (1984), Schotter et al. (2017), Bednarek et al. (2018) and many other scholars within organizational management literature. They stated that there is a relation between organizational performance and the extent to which an organization is engaged in boundary spanning.

The findings of this research also confirm the importance of boundary spanning roles for boundary spanning emphasized by Schotter et al. (2017), Levina & Vaast (2005) and Fisk et al. (2010). There was a "linking pin" present in each case and both the OMC and the BAM were contributing to boundary spanning when used by a boundary spanning role on the clients side. The boundary spanner on the clients side would make sure that the employees on the clients side would go along with the methods and models of Anderson MacGyver. The fact that the boundary spanner has to be on the clients side and the consultants side, confirms that informal nominated boundary spanners perform better in practice (Levina & Vaast, 2005). In each case, the consultant also took on a boundary spanning role, but this was not a verifiable factor of influence in the deployment of the OMC and the BAM as boundary spanning objects. We can not rule out that the efforts of the consultants contributed to this deployment as there is no material for comparison without a consultant, but it is not a decisive factor in this research.

The people seen as boundary spanners on the clients side, were people with management functions within the company. Even though specific characteristics that made them a boundary spanner were not mentioned, we could state that having a management function demands you to have good communication skills and being able to build and maintain a wide network within the company. These are skills described by other scholars for succesful boundary spanners (Tushman & Scanlan, 1981; Miller, 2008; Barner-Rasmussen et al., 2014).

So far, there is a lack of literature on the role of consultancy within boundary spanning. However, a few things stood out in this research concerning the role of Anderson MacGyver. As mentioned earlier, in each case the consultant took on a boundary spanning role. As Anderson MacGyver is hired for a certain goal and there are organizational and knowledge boundaries related to that goal, they have to overcome these boundaries. This way, they formally take on the role of boundary spanner. They organize boundary spanning activities such as workshops, interviews and other meetings, as this is part of their job and working method. The case study of Kim & Jarvenpaa (2008) showed a suppressing effect on boundary spanning when formal and informal boundary spanning mechanisms were combined. However, this research did not show any signs of a suppressing effect on boundary spanning achievement in combination with informal boundary spanning mechanisms (Kim & Jarvenpaa, 2008).

What also stood out, was that almost no other boundary spanning objects were identified by the interviewees. However, in all cases, part of the project goal was to create a strategy, vision or other kind of document that would be used as a common truth for the company to base further choices on. This strategy, vision or other kind of document should be able to create a shared and supported vision, has a common language, enables the company to base further choices on and is used by boundary spanning roles within the company. In other words, part of the project goal was to create a boundary spanning object. In current literature, the creation of a boundary spanning object is not mentioned as a goal on its own. But this can also be a matter of perspective. When looking at the research of Levina & Vaast (2005), they state that it is impossible to predict or determine whether an artifact will become a boundary spanning object. The ongoing use by boundary spanning role will give the artifact it's meaning. From that perspective, the goal is not to create a boundary spanning object, but once the project's goals are reached and a common vision is established among stakeholders, supporting artifacts will become boundary spanning objects because they are used by boundary spanners. The difference, again, would be that with consultants in play, these artifacts would emerge formally instead of informally and we would be able to predict if a certain artifact will become a boundary spanning object when it is proposed and used by consultants. On that subject, this research does not agree with the research of Levina & Vaast (Levina & Vaast, 2005). This research would suggest that boundary spanning roles, activities and objects are formally emerging when there are consultants in play by definition. In section 8, I propose a new angle to boundary spanning from a consultancy perspective.

When organizations are uncertain, they are more likely to be open and engage in boundary spanning activities (Leifer & Delbecq, 1978). This corresponds to the findings that the necessity of the project or need to change is correlated to the deployment of the OMC and the BAM as a boundary spanning object. When organizations need to change and are uncertain, they could hire a consultant to support the process of change. When hiring a consultant, the organization automatically engages in boundary spanning activities.

6.2 Practical implications

Next to the scientific implications of this research, some practical implications came forward during the interviews for Anderson MacGyver. The first recommendation would be to implement a call-back or evaluation moment, three to six months after the project is finished. Three interviewees from the client side indicated they missed a check-up after finishing the project. This could be formal or informal. As an example, see the quote underneath.

[Case J, client] If I had worked for Andersen MacGyver. Then I would have liked to know, what adjustments has X made in the organization? (...) I would have found it interesting to take a look back at gosh, what did we discuss with each other back then? And how does it work out in practice? And there is also a bit of customer intimacy there. I mean (...) did you leave? I'll just say so. Well, if you come back after two years and say dude how, what is it then, yes, what has become of it all? What has happened since then? So you'll learn from it. But you also do customer relations. For myself, I think, I have consultant X, yes, because I happened to talk to him this week. But yes, in itself it is also nice to keep that interaction with each other.

Two other recommendation concern the deployment of both models and digital transformation projects in general. As the necessity of the project is a factor of influence, the consultants of Anderson MacGyver should emphasize the consequences of not reaching to projects' goals in a professional manner. The client should not feel pushed towards a specific solution, but be aware of the necessity of the project and the support of the consultant during this project. The other factor of influence on the deployment of the OMC and the BAM as boundary spanning objects is the use of both models by boundary spanning roles on the clients' side. The consultants of Anderson MacGyver can not reassure there is a boundary spanner actively promoting their methods, but they can influence the promotion of their methods towards the management involved. Especially the experienced consultants can indicate how these models contributed to other digital transformation projects with other clients, or explain how these models can specifically work as a boundary spanning object for the organization in the future.

6.3 Limitations

The research that has been conducted for this master thesis has several limitations which are discussed below.

- The first limitation is related to the fact that the conducted research is for a master thesis. This predetermines the time span of- and milestones for the research. The research had to be conducted within eight months and certain sections, such as the literature study for the long proposal, had to be delivered at a certain point. Working efficiently within the time span was not a limit for this thesis, but certain choices, such as the number of interviews, were partly based on the time span. To be able to provide a more objective view on the use of both models in digital transformation projects, there should have been more interviews with different people from the same projects. For example, three interviews on the client's side and two interviews on the consultant's side. Unfortunately, this did not fit in the scope of the project.
- The second limitation concerns a bias in the selected projects of Anderson MacGyver and the invited interviewees. The selection process of the projects was conducted with two senior consultants of Anderson Mac-Gyver with the criteria described in section 4.2.2 under "case selection". Even though the intention was to select a good variety of cases, there will always be a bias or preference of the two senior consultants when choosing possible cases for this research, because they might think a certain case would be interesting for this research or have a positive association with a certain case. The same goes for selecting possible interviewees for each case. The interviewee has to be able to make time for an interview and be willing to talk about the project. The very people who have a loud opinion on the methods and models used by Anderson MacGyver are brought forward as possible interviewees. This can enrich the context but also give a distorted view on the deployment of these models. What can also not remain unmentioned is the fact that two interviewees for each case is not representative enough for the project as a whole. In other words, the sample size of interviewees is too small. One deviant opinion has too much influence on the results, as one case is immediately no longer well represented and will get a wrong place in the sequence. A recommendation for the right amount of interviews is done in section 8 for future research.
- The inexperience and subjectivity of the researcher is the third limitation of this research. Only one researcher conducted the whole process of

preparation, interviewing, coding, data analysis and interpretation of results. As the researcher did not have any prior experience with interview coding, this might affect the reliability of the research.

• Interviewees may answer questions in a way that they think will lead to being accepted and liked, which leads to social desirability bias and the final limitation of this research. Especially when it comes to sensitive topics, people tend to present themselves in the best possible light. Even though the interviews were work related and not personal, some topics are sensitive for the company and they might want to cover up certain aspects.

7 Conclusion

In this section, the subquestions and main research questions will be answered with the input of the results and discussion sections.

Subquestions To be able to answer the main research question, the subquestions will be answered in order.

SRQ1.1: How are "boundary spanning roles" and "boundary spanning activities" defined in current literature?

Boundary spanning roles are defined as "Persons who operate at the periphery or boundary of an organization, performing organizational relevant tasks, relating the organization with elements outside it. They are primarily responsible for information exchange between organizations and its task environment". For this research, five types of boundary spanning roles have been identified: linking pin, structurale hole, ambassador, coordinator and scout.

Boundary spanning activities are defined as "Activities (team or individual) performed to elicit assistance or information from some unit or organization external to the project". There are four types of boundary spanning activities: (1) information and knowledge management, (2) coordination of teams, tasks and projects, (3) building and maintaining networks, (4) representing and influencing.

SRQ1.2: What type of boundaries can be identified in current literature?

A boundary is defined is "distinctive lines that separate what is within an organization and what is in the external environment with which it interacts". The type of boundaries that are identified in literature are (1) organizational boundaries, (2) functional boundaries, (3) knowledge boundaries, (4) individual boundaries and (5) spatial and temporal boundaries.

SRQ1.3: What type of boundary spanning objects can be identified in current literature?

Boundary spanning objects are defined as "A physical, abstract or mental object that serves as a focal point in collaboration enabling parties to represent, transform and share knowledge". For this research, five characteristics of boundary spanning objects have been identified.(1) The object is continuously used by boundary spanning roles, (2) the object is used to create a common understanding of a concept, (3) the object enables communication, collaboration, coordination or problem solving and (4) the object satisfies the informational requirements of each field involved and facilitates translation between individuals.

SRQ2.1: Which boundary spanning characteristics can be identified in digital transformation projects?

The boundary spanning characteristics that can be identified in digital transformation projects are as follows. Concerning the type of boundaries, organizational and knowledge boundaries were present. Looking at the boundary spanning roles, linking pins were identified and looking at boundary spanning activities, information and knowledge management was identified in digital transformation projects. This can be explained by the fact that with consultancy projects, such as the cases of Anderson MacGyver, consultants are hired to overcome organizational and knowledge boundaries, consultants automatically take on the role of a linking pin as their assignment corresponds with boundary spanning and the workshops conducted in all digital transformation projects can be seen as information and knowledge management.

SRQ2.2: What are the differences of the stakeholder backgrounds between the digital transformation projects?

There are no notable differences in the stakeholder backgrounds between the digital transformation project that are of influence on the deployment of the OMC and the BAM as boundary spanning objects. The stakeholder field has a mix of business and IT backgrounds. Only in two cases, the stakeholder field was limited to employees with an IT background and a small management group. In the other cases, the business employees were in the majority.

SRQ3.1: How is the Operating Model Canvas (OMC) supporting boundary spanning activities in digital transformation projects?

The OMC is currently supporting boundary spanning activities when there is someone on the client's side that will take on a boundary spanning role and propagates the OMC within the rest of the company. Also, the necessity of organization change is related in such a way that the greater the urgency, the more the OMC will become a boundary spanning object.

SRQ3.2: How is the Business Activity Model (BAM) supporting boundary spanning activities in digital transformation projects?

The OMC is currently supporting boundary spanning activities when there is someone on the client's side that will take on a boundary spanning role and propagates the BAM within the rest of the company. Also, the necessity of organization change is related in such a way that the greater the urgency, the more the BAM will become a boundary spanning object.

Main research question The answers to the sub questions have led to an answer to my main research question which is repeated and answered below.

MRQ: How can the Operating Model Canvas (OMC) and the Business Activity Model (BAM) support boundary spanning achievement in Digital Transformation projects?

The OMC and BAM can support boundary spanning achievement in digital transformation projects by ensuring there is someone on the client's side that will take on a boundary spanning role and propagates the OMC and the BAM within the rest of the company. Other contributing factors are the necessity of the assignment and the open attitude towards the project of all stakeholders.

8 Future research

This sections explores the possibilities for future research. The most important themes will be discussed point wise. As this research has some limitations which have been discussed in the previous section, there are some suggestions for future research that are beyond the scope for now or continue on the findings of this research.

- To be able to increase the reliability of this research, it would be interesting to expand this research with extra interviews on the same cases and protocol. This way, the results can be enhanced and compared to see if this research is reproducible. Another suggestion for similar research on models used by consultants for digital transformation projects, would be to conduct 2 interviews on the side of the consultant and 3 interviews on the side of the client to increase reliability.
- As stated in the discussion, there is a lack of research on the role of consultants in boundary spanning. Based on this case study, we stated in the discussion that a consultant automatically takes on the formal role of boundary spanner and organizes and engages in boundary spanning activities. We also stated that part of the goal of the project was to deliver a boundary spanning object that is used to base further choices on. It would be interesting to be able to compare this with other research on boundary spanning where external consultants are involved. It addition, it would be interesting to look at the influence of consultants who automatically take on a boundary spanning role and the effect of this on boundary spanning

success as they do take on a formal role, while the literature states successful boundary spanners often emerge and are not formal. It would also be interesting to see how consultancy fits in the concept of boundary spanning. In accordance with this research, we could state that consultants automatically set the boundary spanning process in motion and support this, but are not the decisive factor for boundary spanning achievement. To be able to support or decline this statement, more research on the role of consultants within boundary spanning is needed.

• The final suggestion would be to expand the current research by looking at the influence of both models in comparison with other models used by consultants in digital transformation projects. Do we just need a systematic approach or do we truly need the multimodal way of thinking as proposed by Anderson MacGyver? What factors determine if a model can be seen as a boundary spanning object in a digital transformation project? Are these factors the same for all models? Or is there a "better" model? To be able to answer these questions, more research is needed with different models, with preference from another consultancy agency.

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A Interview questions NL

A.1 Stakeholder questions

Voor mijn master Business Informatics ben ik bezig met het schrijven van mijn scriptie. Hiervoor doe ik onderzoek naar de inzet van het OMC en het BAM in digitale transformatie projecten voor Anderson MacGyver. Hierbij kijk ik specifiek naar het creëren van een gezamenlijke visie en draagvlak met behulp van deze modellen binnen een organisatie. Dit onderzoek ik door een case study uit te voeren met meerdere projecten van Anderson MacGyver. Hiervoor houd ik interviews met twee stakeholders van elk project.

Dit interview wordt opgenomen enkel voor doeleinden gerelateerd aan dit onderzoek binnen Anderson MacGyver. Ik wil graag uw toestemming vragen voor deze opname.

- 1. Wat is uw functie binnen [bedrijf] en hoe zou u deze omschrijven?
- 2. Hoe lang bekleed u deze functie al?
- 3. Wat is uw verdere achtergrond?
- 4. Wat was uw functie binnen [project]?
- 5. Hoe zou u het doel van het project omschrijven?
- 6. Wat was de aanleiding om te starten met dit project?
- 7. Waarom hebben jullie in eerste instantie gekozen voor Anderson Mac-Gyver?
- 8. Welke verschillende stakeholders zou u onderscheiden in dit project?
- 9. Wat zijn de achtergronden van deze stakeholders?
- 10. Welke verschillende groepen zou je kunnen onderscheiden in dit project? (Of zijn deze hetzelfde als/gerelateerd aan de stakeholders?)
- 11. Waren er voorafgaand aan het project verschillende perspectieven op de uitkomst van het project vanuit deze groepen? Zo ja, zou u deze kunnen omschrijven?
- 12. Waar kwam dit uit voort?
- 13. Heeft u tijdens het project het idee gehad dat er verschillende perspectieven waren op de uitkomst van het project? Zo ja, zou u deze kunnen omschrijven?
- 14. Waar kwam dit uit voort?
- 15. Wie hielden het contact tussen de [groepen of stakeholders uit vraag 13 & 15]?
- 16. Wie hielden het contact tussen Anderson MacGyver en [bedrijf]?
- 17. Werden deze personen ook erkend als goede vertegenwoordigers? Hadden zij steun vanuit de groepen waarvoor zij informatie moeten overbrengen?

- 18. Wat was de achtergrond van de personen? Kwamen zij zelf ook uit het werkveld van een van deze groepen of juist uit het management?
- 19. Hoe zou je de netwerk en communicatie vaardigheden van deze personen omschrijven?
- 20. Wat waren de verdere taken van deze personen binnen het project?
- 21. Waren er individuen die ervoor zorgden dat de [perspectieven uit vraag 15 & 16] bij elkaar kwamen en de visie van de [groepen of stakeholders uit vraag 12 & 13] bij elkaar werd gebracht?
- 22. Wie waren betrokken bij het creëren van het OMC?
- 23. Het doel van het OMC is om een gedeelde visie te creëren van de business activities van het bedrijf. Is dit doel wel of niet behaald in dit project?
- 24. Werd het OMC door alle betrokken partijen geaccepteerd en gebruikt?
- 25. Werd het OMC gebruikt door de [individuen vraag 23]?
- 26. Is het OMC een begrijpelijk/makkelijk te interpreteren model voor alle groepen in het project?
- 27. Gebruiken jullie het OMC nog steeds of refereren jullie nog wel eens terug naar het OMC?
- 28. Wie waren betrokken bij het indelen van de business activities aan de hand van het BAM?
- 29. Het doel van het BAM is om een gedeelde visie te creëren van de focus van de business activities van het bedrijf. Is dit doel wel of niet behaald in dit project?
- 30. Werd de inzet van het BAM door alle betrokken partijen geaccepteerd en gebruikt?
- 31. Werd het BAM gebruikt door de [individuen vraag 23]?
- 32. Is het BAM een begrijpelijk/makkelijk te interpreteren model voor alle groepen in het project?
- 33. Gebruiken jullie het BAM nog steeds of refereren jullie nog wel eens terug naar het BAM?
- 34. Wie waren er aanwezig tijdens de workshops voor het opstellen van het OMC en het indelen van de business activities aan de hand van het BAM?
- 35. Hebben er, naar uw mening, voldoende workshops plaatsgevonden voor het opstellen van het OMC en het BAM? Zo nee, hadden er minder of meer workshops moeten plaatsvinden of op een andere wijze?
- 36. Werden het OMC en het BAM nog ingezet voor andere doeleinden? Bijvoorbeeld voor coördinatie van taken of communicatie richting andere groepen in het bedrijf?

- 37. Wat waren de voor- en nadelen aan het werken met deze modellen?
- 38. Waar kwam dat uit voort?
- 39. Heeft het gebruik van deze modellen geleid tot nieuwe inzichten?
- 40. Zijn de gestelde doelen voor het project behaald? Welke zijn wel behaald en welke niet?
- 41. In hoeverre zou u het project als successol of onsuccessol beschrijven?
- 42. Zijn de [perspectieven beschreven bij vraag 15 & 16], nog steeds aanwezig na afloop van het project? Zo niet, wat heeft gezorgd voor een gezamenlijke visie?
- 43. Welke factoren hebben de meeste invloed gehad op de uitkomst van het project?
- 44. Wie of wat was er onmisbaar binnen het project om deze te laten slagen?
- 45. Wat was er gebeurt als deze persoon/object er niet was geweest?
- 46. Zou jij hier een voorbeeld van kunnen geven?
- 47. Was het OMC in combinatie met het BAM onmisbaar in dit project? Waren jullie bijvoorbeeld zonder deze modellen op hetzelfde resultaat uitgekomen?
- 48. Zou u het gebruik van het OMC in combinatie met het BAM aanraden aan andere bedrijven voor digitale transformatie? Zo niet, wat zou er voor zorgen dat u dat wel zou doen?
- 49. Zou u deze werkwijze ook bij een ander project willen gebruiken?
- 50. Waarom wel/niet?
- 51. Zou u als referentie willen optreden voor Anderson Macgyver?
- 52. Is er nog iets dat u zou willen toevoegen aan de eerder gegeven antwoorden?
- 53. Heeft u nog vragen over het onderzoek of over dit interview?

Ik wil u bedanken voor uw tijd.

A.2 Consultant questions

Voor mijn master Business Informatics ben ik bezig met het schrijven van mijn scriptie. Hiervoor doe ik onderzoek naar de inzet van het OMC en het BAM in digitale transformatie projecten voor Anderson MacGyver. Hierbij kijk ik specifiek naar het creëren van een gezamenlijke visie en draagvlak met behulp van deze modellen binnen een organisatie. Dit onderzoek ik door een case study uit te voeren met meerdere projecten van Anderson MacGyver. Hiervoor houd ik interviews met twee stakeholders van elk project. Dit interview wordt opgenomen enkel voor doeleinden gerelateerd aan dit onderzoek binnen Anderson MacGyver. Ik wil graag uw toestemming vragen voor deze opname.

- 1. Wat is uw functie binnen Anderson MacGyver en hoe zou u deze omschrijven?
- 2. Hoe lang bekleed u deze functie al?
- 3. Wat is uw verdere achtergrond?
- 4. Wat was uw functie binnen [project]?
- 5. Hoe zou u het doel van het project omschrijven?
- 6. Wat was volgens u de aanleiding om te starten met dit project?
- 7. Welke verschillende stakeholders zou u onderscheiden in dit project?
- 8. Wat zijn de achtergronden van deze stakeholders?
- 9. Welke verschillende groepen zou je kunnen onderscheiden in dit project? (Of zijn deze hetzelfde als/gerelateerd aan de stakeholders?)
- 10. Waren er voorafgaand aan het project verschillende perspectieven op de uitkomst van het project vanuit deze groepen? Zo ja, zou u deze kunnen omschrijven?
- 11. Waar kwam dit uit voort?
- 12. Heeft u tijdens het project het idee gehad dat er verschillende perspectieven waren op de uitkomst van het project? Zo ja, zou u deze kunnen omschrijven?
- 13. Waar kwam dit uit voort?
- 14. Wie hielden het contact tussen de [groepen of stakeholders uit vraag 13 & 15]?
- 15. Wie hielden het contact tussen Anderson MacGyver en [bedrijf]?
- 16. Werden deze personen ook erkend als goede vertegenwoordigers? Hadden zij steun vanuit de groepen waarvoor zij informatie moeten overbrengen?
- 17. Wat was de achtergrond van de personen? Kwamen zij zelf ook uit het werkveld van een van deze groepen of juist uit het management?
- 18. Hoe zou je de netwerk en communicatie vaardigheden van deze personen omschrijven?
- 19. Wat waren de verdere taken van deze personen binnen het project?
- 20. Waren er individuen die ervoor zorgden dat de [perspectieven uit vraag 15 & 16] bij elkaar kwamen en de visie van de [groepen of stakeholders uit vraag 12 & 13] bij elkaar werd gebracht?
- 21. Wie waren er precies betrokken bij het creëren van het OMC?

- 22. Het doel van het OMC is om een gedeelde visie te creëren van de business activities van het bedrijf. Is dit doel wel of niet behaald in dit project?
- 23. Werd het OMC door alle betrokken partijen geaccepteerd en gebruikt?
- 24. Werd het OMC gebruikt door de [individuen vraag 23]?
- 25. Is het OMC een begrijpelijk/makkelijk te interpreteren model voor alle groepen in het project?
- 26. Gebruiken jullie het OMC nog steeds of refereren jullie nog wel eens terug naar het OMC?
- 27. Wie waren betrokken bij het indelen van de business activities aan de hand van het BAM?
- 28. Het doel van het BAM is om een gedeelde visie te creëren van de focus van de business activities van het bedrijf. Is dit doel wel of niet behaald in dit project?
- 29. Werd de inzet van het BAM door alle betrokken partijen geaccepteerd en gebruikt?
- 30. Werd het BAM gebruikt door de [individuen vraag 23]?
- 31. Is het BAM een begrijpelijk/makkelijk te interpreteren model voor alle groepen in het project?
- 32. Wie waren er aanwezig tijdens de workshops voor het opstellen van het OMC en het indelen van de business activities aan de hand van het BAM?
- 33. Werden het OMC en het BAM nog ingezet voor andere doeleinden? Bijvoorbeeld voor coördinatie van taken of communicatie richting andere groepen in het bedrijf?
- 34. Zijn de gestelde doelen voor het project behaald? Welke zijn wel behaald en welke niet?
- 35. In hoeverre zou u het project als successol of onsuccessol beschrijven?
- 36. Zijn de [perspectieven beschreven bij vraag 15 & 16], nog steeds aanwezig na afloop van het project? Zo niet, wat heeft gezorgd voor een gezamenlijke visie?
- 37. Welke factoren hebben de meeste invloed gehad op de uitkomst van het project?
- 38. Wie of wat was er onmisbaar binnen het project om deze te laten slagen?
- 39. Wat was er gebeurt als deze persoon/object er niet was geweest?
- 40. Zou jij hier een voorbeeld van kunnen geven?
- 41. Was het OMC in combinatie met het BAM onmisbaar in dit project? Waren jullie bijvoorbeeld zonder deze modellen op hetzelfde resultaat uitgekomen?

- 42. Is er nog iets dat u zou willen toevoegen aan de eerder gegeven antwoorden?
- 43. Heeft u nog vragen over het onderzoek of over dit interview?
 - Ik wil u bedanken voor uw tijd.

B Interview questions ENG

B.1 Stakeholder questions

I am writing my thesis for my master Business Informatics. For this I am researching the deployment of the OMC and the BAM in digital transformation projects for Anderson MacGyver. I specifically look at creating a joint vision and support within an organization using these models. I investigate this by conducting a case study with multiple projects by Anderson MacGyver. For this I hold interviews with two stakeholders of each project.

This interview is being recorded only for purposes related to this research within Anderson MacGyver. I would like to ask for your permission for this recording.

- 1. What is your position within [company] and how would you describe it?
- 2. How long have you held this position?
- 3. What is your background?
- 4. What was your position within [project]?
- 5. How would you describe the goal of the project?
- 6. What was the reason for starting this project?
- 7. Why did you choose Anderson MacGyver in the first place?
- 8. Which different stakeholders would you distinguish in this project?
- 9. What are the backgrounds of these stakeholders?
- 10. Which different groups could you distinguish in this project? (Or are these the same as/related to the stakeholders?)
- 11. Were there different perspectives on the outcome of the project from these groups prior to the project? If so, could you describe them?
- 12. Where did this come from?
- 13. During the project, did you have the idea that there were different perspectives on the outcome of the project? If so, could you describe them?
- 14. Where did this come from?
- 15. Who kept the contact between the [groups or stakeholders from question 13 & 15]?
- 16. Who maintained the contact between Anderson MacGyver and [company]?
- 17. Were these persons also recognized as good representatives? Did they have support from the groups for which they had to convey information?
- 18. What was the background of the people? Did they themselves come from the field of work of one of these groups or from management?

- 19. How would you describe the networking and communication skills of these people?
- 20. What were the other tasks of these people within the project?
- 21. Were there individuals who ensured that the [perspectives from question 15 & 16] came together and the vision of the [groups or stakeholders from question 12 & 13] was brought together?
- 22. Who were involved in creating the OMC?
- 23. The purpose of the OMC is to create a shared vision of the company's business activities. Has this goal been achieved or not in this project?
- 24. Has the OMC been accepted and used by all parties involved?
- 25. Was the OMC used by the [individuals question 23]?
- 26. Is the OMC an understandable/easy to interpret model for all groups in the project?
- 27. Do you still use the OMC or do you sometimes refer back to the OMC?
- 28. Who were involved in classifying the business activities on the basis of the BAM?
- 29. The aim of the BAM is to create a shared vision of the focus of the company's business activities. Has this goal been achieved or not in this project?
- 30. Was the deployment of the BAM accepted and used by all parties involved?
- 31. Was the BAM used by the [individuals question 23]?
- 32. Is the BAM an understandable/easy to interpret model for all groups in the project?
- 33. Do you still use the BAM or do you sometimes refer back to the BAM?
- 34. Who attended the workshops for drawing up the OMC and classifying the business activities on the basis of the BAM?
- 35. In your opinion, have there been sufficient workshops for drawing up the OMC and the BAM? If not, should fewer or more workshops have taken place or in some other way?
- 36. Were the OMC and BAM still used for other purposes? For example for coordination of tasks or communication towards other groups in the company?
- 37. What were the advantages and disadvantages of working with these models?
- 38. Where did that come from?
- 39. Has the use of these models led to new insights?

- 40. Have the objectives set for the project been achieved? Which have been achieved and which have not?
- 41. To what extent would you describe the project as successful or unsuccessful?
- 42. Are the [perspectives described at question 15 & 16] still present after the project? If not, what led to a shared vision?
- 43. Which factors had the most influence on the outcome of the project?
- 44. Who or what was indispensable within the project to make it successful?
- 45. What would have happened if this person/object had not been there?
- 46. Could you give an example of this?
- 47. Was the OMC in combination with the BAM indispensable in this project? For example, would you have arrived at the same result without these models?
- 48. Would you recommend the use of the OMC in combination with the BAM to other digital transformation companies? If not, what would make you do that?
- 49. Would you like to use this method for another project?
- 50. Why yes/no?
- 51. Would you act as a reference for Anderson MacGyver?
- 52. Is there anything else you would like to add to the previous answers?
- 53. Do you have any questions about the research or this interview?

I would like to thank you for your time.

B.2 Consultant questions

I am writing my thesis for my master Business Informatics. For this I am researching the deployment of the OMC and the BAM in digital transformation projects for Anderson MacGyver. I specifically look at creating a joint vision and support within an organization using these models. I investigate this by conducting a case study with multiple projects by Anderson MacGyver. For this I hold interviews with two stakeholders of each project.

This interview is being recorded only for purposes related to this research within Anderson MacGyver. I would like to ask for your permission for this recording.

- 1. What is your position within Anderson MacGyver and how would you describe it?
- 2. How long have you held this position?
- 3. What is your background?

- 4. What was your position within [project]?
- 5. How would you describe the goal of the project?
- 6. What do you think was the reason for starting this project?
- 7. Which different stakeholders would you distinguish in this project?
- 8. What are the backgrounds of these stakeholders?
- 9. Which different groups could you distinguish in this project? (Or are these the same as/related to the stakeholders?)
- 10. Were there different perspectives on the outcome of the project from these groups prior to the project? If so, could you describe them?
- 11. Where did this come from?
- 12. During the project, did you have the idea that there were different perspectives on the outcome of the project? If so, could you describe them?
- 13. Where did this come from?
- 14. Who kept the contact between the [groups or stakeholders from question 13 & 15]?
- 15. Who maintained the contact between Anderson MacGyver and [company]?
- 16. Were these persons also recognized as good representatives? Did they have support from the groups for which they had to convey information?
- 17. What was the background of the people? Did they themselves come from the field of work of one of these groups or from management?
- 18. How would you describe the networking and communication skills of these people?
- 19. What were the other tasks of these people within the project?
- 20. Were there individuals who ensured that the [perspectives from question 15 & 16] came together and the vision of the [groups or stakeholders from question 12 & 13] was brought together?
- 21. Who exactly were involved in creating the OMC?
- 22. The purpose of the OMC is to create a shared vision of the company's business activities. Has this goal been achieved or not in this project?
- 23. Has the OMC been accepted and used by all parties involved?
- 24. Was the OMC used by the [individuals question 23]?
- 25. Is the OMC an understandable/easy to interpret model for all groups in the project?
- 26. Do you still use the OMC or do you sometimes refer back to the OMC?

- 27. Who were involved in classifying the business activities on the basis of the BAM?
- 28. The aim of the BAM is to create a shared vision of the focus of the company's business activities. Has this goal been achieved or not in this project?
- 29. Was the deployment of the BAM accepted and used by all parties involved?
- 30. Was the BAM used by the [individuals question 23]?
- 31. Is the BAM an understandable/easy to interpret model for all groups in the project?
- 32. Who attended the workshops for drawing up the OMC and classifying the business activities on the basis of the BAM?
- 33. Were the OMC and BAM still used for other purposes? For example for coordination of tasks or communication towards other groups in the company?
- 34. Have the objectives set for the project been achieved? Which have been achieved and which have not?
- 35. To what extent would you describe the project as successful or unsuccessful?
- 36. Are the [perspectives described at question 15 & 16] still present after the project? If not, what led to a shared vision?
- 37. Which factors had the most influence on the outcome of the project?
- 38. Who or what was indispensable within the project to make it successful?
- 39. What would have happened if this person/object had not been there?
- 40. Could you give an example of this?
- 41. Was the OMC in combination with the BAM indispensable in this project? For example, would you have arrived at the same result without these models?
- 42. Is there anything else you would like to add to the previous answers?
- 43. Do you have any questions about the research or this interview?
- I would like to thank you for your time.

C Codebook

Name	Description
Background	Background of the stakeholders (IT/Business/Mix)
BAM BS characteristics	
Common understanding (goal)	The BAM is used to create a common understanding of a concept.
Enabling	The BAM enables communication, collaboration, coordination or problem solving.
Translating (common language)	The BAM satisfies the informational requirements of each field involved and facilitates translation between individuals
Used by roles	The BAM is continuously used by boundary spanning roles.
BAM indispensable	BAM seen as indispensable to achieve boundary spanning within the DT project.
Boundary	
Functional	Boundaries between individuals, groups or jurisdictions with the same function or occupation.
Individual	boundaries between groups from different cultures and countries. These boundaries can also occur within groups with expatriate employees or between individuals with a different age, gender or ideology.
Knowledge	Boundaries that represent the limit or border of an agent's knowledge base in relation to a different domain of knowledge.
Organizational	Boundaries within and across organizations. They separate one organization from others, multiple functional units or even different hierarchical levels within the same unit.
Spatial and temporal	Boundaries that focus on employees working in different locations or time zones.
BS achievement	The occurence of a set of communication and coordination activities performed by individuals within an organization and between organizations to integrate activities across multiple cultural, institutional and organizational contexts.
BS activities	
Building and maintaining networks	Making and maintaining connections within and outside of the organization. This involves networking activities and building bridges.
Coordination of teams, tasks and projects	Boundary spanners often take the role of task coordinators who facilitate collaboration and effective problem solving through the negotiation of differences. They also play a key role in mediating conflicts that can come from individual character istic boundaries.
Information and knowledge management	Boundary spanners engaging in gathering and sharing information both across and within boundaries. When sharing information, boundary spanners often act as filters.
Representing and influencing	Two related activities concerned with gaining influence on external actors and representing and protecting internal actors.
BS Indispensable	Concepts/Individuals or other that is seen as indispensable to achieve boundary spanning within the DT project.
BS Role	
Ambassador	Individual who protects his or her team from outside pressure and persuades other people to support the team.
Coordinator	Individual who is coordinating tasks and negotiating with outsiders.
Linking pin	They operate at the boundary itself, for example by linking multiple organizations, linking headquarters and lower departments and linking project teams and their external environment. They are seen as the link between the environment and the organization.
Scout	Individual who is occupied with scanning for ideas and information about the external environment.

Figure C1: Codebook NVivo part 1

Name	Description
Structurale hole	Individuals whose networks span the separations between non redundant contacts, or in other words span the structural holes
Continious use	When the interviewees refer back to the OMC/BAM.
Field	An area of activity or interest.
OMC BS characteristics	
Common understanding (goal)	The OMC is used to create a common understanding of a concept.
Enabling	The OMC enables communication, collaboration, coordination or problem solving.
Translating (common language)	The OMC satisfies the informational requirements of each field involved and facilitates translation between individuals.
Used by roles	The OMC is continuously used by boundary spanning roles.
OMC Indispensable	OMC seen as indispensable to achieve boundary spanning within the DT project.
Stakeholder	Stakeholders of the project that are involved in the entire project or OMC/BAM workshops.

Figure C2: Codebook NVivo part 2

D Framework

	Project purpose	Project size	Interviewee role AMG	Interviewee role client	Project stakeholders	Stakeholder backgrounds
Case A						
Case B						
Case C						
Case D						
Case E						
Case F						
Case G						
Case H						
Case I						
Case J						

Table D1: General information per case

Concept	Subconcept	Definition	Quotes
Boundary	Organizational	Boundaries within and across organizations. They separate one organization from others, multiple functional units or even different hierarchical levels within the same unit	"And yes, there was tension in purchasing, because there was a point that generally affected my purchasing and purchasing IT. Not that there were two separate things in between. In any case, there was a friction between the two departments"
	Functional	Boundaries between individuals, groups or jurisdictions with the same function or occupation.	"What you will notice, of course, is that this leads to a lot of agitation in your organization. Because we have a very loyal workforce here, people who have been working in this company for years and who became very insecure and restless and saw their future threatened"
	Knowledge	Boundaries that represent the limit or border of an agent's knowledge base in relation to a different domain of knowledge	"The importance, say of one of the most important applications for our business process for managing the company projects was a self-developed application that was actually kept in the air and further developed by a freelancer who also wrote all the code. So I really saw that as a risk for the continuity of, say, well of the ICT environment, but also of the company with it. Because if you, yes if such a person disappears, then nobody really knows what it is anymore. And that probably won't be a problem for the first month. But the moment something falls over somewhere or something needs to be adjusted, then you are stuck."
	Individual	Boundaries between groups from different cultures and countries. These boundaries can also occur within groups with expatriate employees or between individuals with a different age, gender or ideology	"And, for example in the field of technical service, technical projects. That person has since retired, but you just noticed that he was very dependent on the direction of his old solution, and that he was actually defended it and that he was very difficult in operating towards the future. There could be a new way of working, which may imply that you also have to replace the system. Well, so you notice a field of tension there, huh."
	Spatial and temporal	Boundaries that focus on employees working in different locations or time zones	"In our case it was, it was a bit hindered by the fact that we did that completely during COVID. So we did all that online using, well, the tools that AMG had available. We have used Mural a lot. Lots of off scrolls, but I think the process would certainly have been even better if we could have just done that in a conference room with a whiteboard and some other stuff."

Table D2: Boundary characteristics

Concept	Subconcept	Definition	Quotes
Role	Linking pin	They operate at the boundary itself, for example by linking multiple organizations, linking headquarters and lower departments and linking project teams and their external environment. They are seen as the link between the environment and the organization.	"And yes, consultant X amongst others was there on that team. Yeah, he's just really magnificent at that. Yes, he can explain that so well and in a structured way. And also, he knows how to capture the definitions of such a business activity so well. Yeah, he just pulls the crowd through there. Yes, that helps a lot."
	Structurale hole	Individuals whose networks span the separations between non redundant contacts, or in other words span the structural holes	Literally yesterday. That's really literal. One of my department heads, gave a presentation to the entire HR about the AMG research report. We have already done that within the finance column. So we are very actively working on making the document really very lively. So you get nothing for free.
	Ambassador	Individual who protects his or her team from outside pressure and persuades other people to support the team	"The selection of the representative is done by the department itself. We have asked the departments to contribute to this project. So everyone had the opportunity to put those who best represent the interests of that club into the project."
	Coordinator	Individual who is coordinating tasks and negotiating with outsiders.	"The third aspect was that the company itself communicated very actively. So X had a very active style. He had really decided, I will take people with me on this whole journey. What we do, continuously. So there has been a lot of communication about this change."
	Scout	Individual who is occupied with scanning for ideas and information about the external environment.	-
Boundary spanning object characteristics	Used by roles	The object is continuously used by boundary spanning roles.	"So we weren't quite there somewhere Of course we had already used post-its in those workshops, didn't we. Nowadays it often goes through screens, but that was really still, uh, all kinds of things with us, huppakee, printing and. So we were like, uh, it was workshop six or seven and the thing looked pretty good indeed. He says, can I take it with me? Because I have the supervisory board meeting in a minute. And I already want to use it."
	Common understanding	The object is used to create a common understanding of a concept.	"And create one common vision of the company. Yes, look, then such an OMC comes into play. Yes, that just helps a lot. And that can go really fast, huh. Because that's great, because it's a very large company."
	Enabling	The object enables communication, collaboration, coordination or problem solving.	"What we ended up doing with it. We've done a few other things with it. We have put the bottlenecks on the OMC. We set up the landscape there. Yes, those are the most important. We have used multimodality at the REP and the RFP. Uh, so it's just being used continuously."
	Translating	The object satisfies the informational requirements of each field involved and facilitates translation between individuals	"So yes, we got a guest lecture. But I also have to say that maybe it's because I'm a bit more familiar with it now. But we also just got a new group. I also have the idea in one, in the fifteen minutes/twenty minutes that it was intended to explain that it also worked. It is, of course it is quite clear."

Activities	Information and knowledge management	Boundary spanners engaging in gathering and sharing information both across and within boundaries. When sharing information, boundary spanners often act as filters.	"They don't lock themselves in an office for very long and eventually come up with something. I really like doing a kind of agile way of working where you build something together, where, say, not trying to influence the partner on the result. But you know that you are included in the result so that you can also build something of an image yourself."
	Coordination of teams, tasks and projects	Boundary spanners often take the role of task coordinators who facilitate collaboration and effective problem solving through the negotiation of differences. They also play a key role in mediating conflicts that can come from individual character istic boundaries.	"So one of the goals we had then was to bring those two sides closer together. But there was still relatively little interaction between company X and the other IT departments. So there was also a kind of knowledge gap. So in fact the OMC has also helped in that cooperation to actually bond with company Z in order to take the next step there."
	Building and maintaining networks	Making and maintaining connections within and outside of the organization. This involves networking activities and building bridges	"But what I think is very important about this method is that we include people in this form of workshops and many interviews. Look, if I show you a picture with here you have to standardize and these are the reasons why then you think okay, yes fine, but then you are not included. And I think the real power is in this kind of thing, that's really letting people be a part of the process."
	Representing and influencing	Two related activities concerned with gaining influence on external actors and representing and protecting internal actors.	"Because it's not for nothing, as I say, that we put in three heavyweight directors to join forces. Maybe I can say from our background and skills that we are good at giving presentations and interpreting the story. That we invite ourselves more often and are asked to tell the story. Yes, that must not be a coincidence. But it is just a matter of behavior from the three domains that happen."
Boundary spanning achievement		The occurence of a set of communication and coordination activities performed by individuals within an organization and between organizations to integrate activities across multiple cultural, institutional and organizational contexts.	"I think the project is definitely successful, because company X was able to do that contract. So they have also succeeded in reducing those costs. I think it has become a different company. They also work with in a different way, have really started to work differently."
Continuous use		When the OMC or the BAM is still used or refered back to after the completion of the project.	"But I do use it to bring people back to the conversation, so that's how we came up with it. It's also a way for me to, well actually, keep the frogs in the wheelbarrow and stuff because otherwise it will go in all directions. So this is how we came up with it and it's a really good tool to say where people look at their individual functionality or project, yes, but it's not about your individual business activity. It is important that we organize this as well as possible in total. And then it is not the case that it is one hundred percent for you."

Table D3: Boundary spanning characteristics

E Results per case: boundaries
Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"What they did then, Allinq actually operated from business units, each of which worked fairly autonomously for each other. Little was shared between those in different business units. For example, HR and finance were activities that were done from the center. IT partially. IT was also done within those units with all kinds of systems and the like. Logistics was also often solved within those units themselves. Own purchases etc. Sometimes we did things together again, but then it was normal. The reason was that together it could possibly have advantages, that there was motion in it, and that it was a direct driver for working together, but they work very differently from each other."
	Functional	No	
	Knowledge	Yes	"Those business units, they were like holy Moses. What's going to happen here? We're going to work very differently. So there were also all kinds of fears. How will it be organized in the future? What else do I have to say? And am I not losing my flexibility too much? What do my people think? Is this possible? Anyway, because that was all. Of course it was all a bit high to talk about and then it seems like everything is possible. But it will soon be possible in practice. So that concern was emphatically with that group of executives. And rightly so that was not, we also understood that there was. And that was also discussed."
	Individual	No	
	Spatial and temporal	No	

Table E1: Boundary types Case A

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"So you quickly get that, if there is only one person from a separate person or if there is only a group from a department, then that department is of course very quickly made more important than it is."
	Functional	No	
	Knowledge	Yes	"They wanted to make a new annual plan for 2022. And they had to draw up a financial plan in it, so they wanted a financial benchmark. See how company B's IT departments performed compared to other health insurers and we also performed a sizing benchmark. To see whether the IT company in general is also somewhat normal with regard to others, or whether there are more people or fewer people there or whether the people are always in the right place."
	Individual	Yes	"Not everyone is the same in the game. Suppose you need to save costs, how are you going to do that. There is, after all, a double agenda. You can outsource and automate more and more, so for many people they become redundant, that applies to certain departments."
	Spatial and temporal	No	

Table E2: Boundary types Case B

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"But in any case, they were busy formulating the strategy for 2021-2025. And they knew they wanted to modernize and renew their application landscape because they had two business units, two divisions, and they actually all had different solutions there. While they actually want to be organized as a whole company and one of the solutions that hurt the most was a custom system, because they use for sales and for project implementation. And that system is twenty years old and the employees who support it are now out of service or are leaving."
	Functional	No	
	Knowledge	Yes	"The importance, say one of the most important applications for our business process for managing the x company projects was a self-developed application that was actually kept up and developed by a freelancer who also wrote all the code. So I really saw that as a risk for the continuity of, say, well of the ICT environment, but also of the company with it. Because if you, yes if such a person disappears, then nobody really knows what it is anymore. And that is probably not a problem for the first month. But the moment something falls over somewhere or something needs to be adjusted, then you are stuck."
	Individual	Yes	"Well what you notice is that the process owner. That includes our history. And, for example in the field of technical service, technical projects. That person has since retired, but you just noticed that he was very dependent on his old solution direction yes, and that he actually defended that and that he was very difficult in your operating towards the future. That could be a new way of working, which may imply that you also have to replace the system. Well, so you notice a field of tension there, huh."
	Spatial and temporal	Yes	"In our case it was, it was a bit hindered by the fact that we did that completely in covid. So we did all that online using, well, the tools that AMG had available for that. We have used Mural a lot for that. Lots of off scrolls, but I think the process would certainly have been even better if we could have just done that in a Converense room with a whiteboard and some other stuff."

Table E3: Boundary types Case C

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"But even per result cluster. You have eight result clusters and actually, each IT lead has its own focus area in those result clusters. So they understand very well what needs to be done in there. But they also need things from each other. And they are very busy there, each one on their own. While they can use each other much more."
	Functional	No	
	Knowledge	Yes	"Well, I think that now we tend to do everything ourselves. So uh, and so to everywhere. So we do very little outsourcing. We have very little that we take from the market. We have a very strong tendency to develop and maintain everything ourselves. A lot of uhm, putting logic in the wrong places and so on."
	Individual	No	
	Spatial and temporal	Yes	"So we certainly did, we did the first workshop physically and the second with that multimodal coloring we eventually had to do digitally because corona had struck again. So everyone has to show their colors."

Table E4: Boundary types Case D

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"And what came out very strongly at Company E is that business was indeed putting a lot of pressure on speed and for the customers and ensure that we start prototyping and make sure that we put it much tighter and were there all targets were aimed at that. Because that's where the profit can be made. Also relative to the competition. And if you look at the IT colleagues, yes, they had to contend with security problems, legacy that was delayed. Steered quite on costs, cost reduction too, so to speak. Because apparently that was, say, the targets that had been imposed on them. There is no P&L responsibility there at all. But that profit and loss is on the business side and they were also simply steering completely different targets. Yes. And yes, if more business came in, no one would say well IT team. You did a good job. No, security breaches, continuity assurance. Well, well. So they were sent on completely different things as well. Yes, and that just makes it very difficult in such a large organization, doesn't it. And if you look at the workplace, say, then people are really thinking in other directions and a gap quickly arises and it is difficult to work together."
,	Eurotional	No	
	Knowledge	Yes	"And that also resulted in a restructuring within Company D, so that was actually more of an impulse to bring in an external partner who confirmed what we largely already knew but did not dare to say. And such an external partner had enormous power to bring business and IT together for the same problem, without one thinking of the other that there is a certain agenda. So that was really the main focus."
	Individual	No	
	Spatial and temporal	Yes	*Talking about digital meetings* "No, that's right, and that was of course the challenge here. Especially because we were with so many people."

Table E5: Boundary types Case E

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"And it was also the idea that a number of IT units or IT departments would also be centralized. And so I think that's what Anderson MacGyver joined. And also the idea that you would work towards a, I must say, a BTO, so a business technology organization."
	Functional	No	
	Knowledge	Yes	"The reason was that I had no vision. When I came in, there was no vision of how commerce in relation to IT would develop. And if you want to stay on course, if you want to know where you are working towards, then you have to color that vision, start making it. So we organized all kinds of workshops to lay down that vision."
	Individual	No	
	Spatial and temporal	No	

Table E6: Boundary types Case F

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"It was quite fragmented. This was really the big move. Uhm, and that's why there was just a lot of management attention."
	Functional	Yes	"Yes, the IT strategy that was an important thing. I think there was also a personal KPI and a. And uh, well, then they have to get something done themselves and that depends on what kind of bonuses they get and that kind of silly stuff."
	Knowledge	Yes	"They had a business strategy to become the best X in the Netherlands. For example, what we've also done this is, we've plotted all their investments on it. Then it turned out that they invest a lot here, invest a lot there, but here, it was really the thinnest area where really the least amount of money went into improving that."
	Individual	No	
	Spatial and temporal	No	

Table E7: Boundary types Case G

Concept	Subconcept	Present	Evidence quote
Concept	Organizational	Yes	"They have faculties and a board of directors and a Executive Board. And there you have a kind of central hump that regulates the back office such as HR, finance and that sort of thing. And what they have done at Company I is that they have recently set up a shared service center for just about everything. A shared service center for personnel, a shared service center for finance, you name it. Which is a fancy word for, we organize our finances centrally. And actually the intention there is that the faculties will purchase that, as it were, from that center. In practice, that did not go well. () But the x world is even more of the old-fashioned way. At the top and also simply, you have to deal with that, not that there are no smart people there, but slightly different atmosphere, slightly different dynamics. Uhm, yes, and I think that delegated decision-making is just another new thing, plus x's often have separate policy and implementation. So there you really have such a policy club, which, say, write policy and strategy and this is what we have to do. And a performance club that is just the job and doing it and that doesn't quite agree either. There is also an extra gate in between."
	Functional	No	
	Knowledge	Yes	"And at the same time it is occasionally also very handy not to operate from your own truth, but also to contrast your truth with a truth from outside. Benchmarking. Observations from the outside in."
	Individual	Yes	"I think we had a small situation at one point, that's interesting, uhm, in the very first workshop, says at one point, we were working super intensively, because we had to contribute to the content and one of those men hit the whole assignment. Because we really wanted to look not just at technology, but from the business activity. So we implied what we were going to do to those workshop participants and the guy says "yes, I'd like to make a comment because, uh, we're consciously not going to processes, we're just going to technology". And I saw, consultant x was in that meeting, y, z and I and all the other people and we all saw each other looking like 'Yes fuck'. Because he clearly had a different view of that assignment and we had ours."
	Spatial and temporal	Yes	"Then everyone was on vacation and they were very surprised about that. But we were also on holiday, so we passed on a lot, we did a lot of relay so to speak. At one point consultant x was gone for a month, then um, consultant y was off for three weeks and I was away for two weeks, so it's been a tick, tick, tick every time. That is why those responsibilities have become somewhat intertwined."

Table E8: Boundary types Case I

Concept	Subconcept	Present	Evidence quote
Boundary	Organizational	Yes	"But the core problem was actually what they said, or the core question to us. So we want to be agile, reliable and we do a lot ourselves and we are unable to meet the wishes of the organization properly or insufficiently. The customers are relatively dissatisfied and the delivery times are too long. So we want to outsource. So we want to put some of the activities that we do ourselves on the market. And uh, well and ask us to do that."
	Functional	Yes	"Yes, and did you see that we just came out higher in FTE than what Anderson MacGyver came up with. Yes and then yes, then there is simply a political game. So those are the things that surprised me in terms of content."
	Knowledge	Yes	"And, for example, certain activities such as replacing x. Yeah, we did that once every six/seven years and you never get good at it. So those were actually the reasons that we saw that we really need to do something about this."
	Individual	Yes	"There was also resistance. There was just hassle in that management team. So someone who hey, who threw the anchor. He is also out of place there, he has chosen it himself, has also stopped. So things happen because we're doing We're going to be doing that outsourcing and that organizational change. So all kinds of things happen to people. And that means that resistance, which can focus on us, because we are the consultant He. And that stupid boss, you don't do that, but then there will be counteracting to us. That is of course something that happens. And that can also be expressed in standard to the OMC again."
	Spatial and temporal	No	

Table E9: Boundary types Case J

F Results per case: boundary spanning characteristics

F.1 Boundary spanning roles

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"I think what consultant X did there has been very important. Consultant X and I had already made that tooling at another company before. So we had experience with it, so it wasn't like we were doing it for the first time. So that, well, we could also operate together again there. Fabian has really pulled the car"
	Structurale hole	No	
	Ambassador	Yes	"I think the commitment and confidence of Allinq's management in us and in the way of working we had. That that has been a very important successor. And also that they had the conviction, including the tools we worked with, that that could work for them. And that's yes, that just worked really well. I think that has been one of the key success factors of the entire project."
	Coordinator	No	
	Scout	No	

Table F1: Boundary spanning roles case A

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"No, the consultants really took on the project. And they organized everything."
	Structurale hole	No	
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F2: Boundary spanning roles case B

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"I also think that the people at Anderson MacGyver have guided that well too. And then it also helps if there is a party like AMG standing next to you who also has the right tools, that can be Mural, that can be anything."
	Structurale hole	No	
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F3: Boundary spanning roles case C

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"Yes, so we know the boss of company D from company X, from an earlier assignment. So it switched itself. He asked us to help again. So he knew roughly how we work. I know him and X himself."
	Structurale hole	Yes	"Only they have always had difficulty considering the NS as a whole. He helped them with that in particular."
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F4: Boundary spanning roles case D

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"Uhm gosh, I think that both the IT directors and myself, as well as a few people from the CIO office, have tried to keep the atmosphere vibrant, yes, I can put it bluntly. Yes, because company E is a passionate company where everyone also looks at their own KPIs. And soon you hear meetings popping up, even online they're asking, huh, do we have to do this? And where are we going to get our external eggs now, and so on. So, no, no, we were all behind to do this exercise thoroughly. If you do an exercise anyway, it's an expensive one, because it's not getting free consultations. Then make the most of it. So that was okay."
	Structurale hole	No	
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F5: Boundary spanning roles case E

Concept	Subconcept	Present	lvidence quote			
Role Linking pin Yes		Yes	"Anderson plays a good part there too. Anderson always says, and righteously, that if we are going to make that mole, then the business must also be present. So they demand that. And I think it's quite right that they do that. So that usually goes very well."			
	Structurale hole	No				
	Ambassador	No				
	Coordinator	No				
	Scout	No				

Table F6: Boundary spanning roles case F

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"But actually the moment that such a customer really starts to ask, while you yourself are not yet satisfied, or not ready. That is simply the criterion of: the customer recognizes himself in it and it helps him to explain what his problems are, what his strategy is, what his ambition is. Yes. Yes, he has used it for storytelling for years. And I also liked Tuesday when we were there with company X. So employee Y tells and I think so three, four of his slides, he's still using."
	Structurale hole	No	
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F7: Boundary spanning roles case G

Concept	Subconcept	Present	Evidence quote
			"Employee X, our financial director. He actually pulled this project, personally cost a lot of extra time to describe things even more clearly
Role	Linking pin	Yes	and better."
	Structurale hole	No	
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F8: Boundary spanning roles case H

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"So at a certain point, (). So he also called us afterwards that person X had behaved ridiculous at the workshop and I'm going to put him in his place now. Okay, chill, thanks employee Y. Well, um, I think that was what our client's employee Y tried very hard anyway. So he was very much on top of everything."
	Structurale hole	No	
	Ambassador	Yes	"Literally yesterday, really. One of my department heads, employee X, gave a presentation to the entire HR about the AMG research report. We have already done that within the finance column. So we are very actively working to make the document really very alive within the company. So you get nothing as a gift."
	Coordinator	No	
	Scout	No	

Table F9: Boundary spanning roles case I

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"The third aspect was that the company itself communicated very actively. So employee X had a very active style. He had really decided, I will take people with me on this whole journey. What we do, continuously. So there has been a lot of communication about this change."
	Structurale hole	Yes	"And I do remember one of the employees. He came to me for coffee. There I was and the employee said: well, I just thought it was a very open and honest story and you also gave very good tips and I'm going to work with them. But that is the, what is it called, the change skills that we bring in as a consultant, that cause this and that is separate from the approach."
	Ambassador	No	
	Coordinator	Yes	"So I think how the customer would see us. Is that, uhm, and of course people see us as the party that guided this. And ultimately in a very human way. And we have looked in a very analytical way and of course we have looked very analytically. What is going on and that gave the basis for confidence. And we have a very human dimension. Sure, thanks to that manager there. As a result, there was a lot of contact during the process, eventually just coming to completion without major accidents."
	Scout	No	

Table F10: Boundary spanning roles case J

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"So we've had workshops within those business units and I think we've had two workshops where everyone was together, so, in all the work, everyone together. Just so that we could also exchange with each other where our concerns were, what we thought of it. That people also heard from each other, where the pain was, where the agreement was. Well, that was done in workshops in which the OMCs were leading."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

F.2 Boundary spanning activities

Table F11: Boundary spanning activities case A

Concept	Subconcept	Present	Evidence quote
Role	Linking pin	Yes	"No, the consultants really took on the project. And they organized everything."
	Structurale hole	No	
	Ambassador	No	
	Coordinator	No	
	Scout	No	

Table F12: Boundary spanning activities case B

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"Certainly of course because you are trying to do that with a large, say a broad group of expertise. We also did it quite collectively. So we didn't, so to speak, just started looking at commerce with the people who were engaged in commerce. But that was it, that group was not very large, but there were always different disciplines in it. But that was doable. I also think that the people at Anderson MacGyver have guided that well too."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F13: Boundary spanning activities case C

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"And the operating model itself is, ultimately. You have a version where we really discussed it extensively and the second time we just started to apply multimodality. But then we still get feedback on other things. Yes, should this be different or should this be different? I'm still missing something. So use that whole block here. That's only in uh, this one. It was only added in the third workshop in the end."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F14:	Boundary	spanning	activities	case	D

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"So to really take them along. Well and then, in order to ensure that the entire community with whom you sat around the table, because they were quite a broad stakeholder field, that they do get an unambiguous picture of what the direction of the next step is, in the strategy or the ambition that you pursue, so to speak. And to create one common image of it."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F15: Boundary spanning activities case E

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"To be able to physically shape it. So what we actually do. Also with Anderson, we are actually going to sit in the chair of the business and we are going to organize their activities. And then we will tell from the perspective what we need and how they have to set up. So you come to tell someone from outside how you actually work. Yes, of course that's a little weird."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F16: Boundary spanning activities case F

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"As long as you have enough workshops and talk it through with those people every time. That works, but then it is still exciting. If you then show it to people who have not experienced that entire process or who also immediately understand what happened very quickly, that's amazing"
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F17:	Boundary	spanning	activities	case	G

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"Yes, that is not only multimodal and OMC, but that is the whole blueprint document that there is now a real joint picture at a detailed level. Okay, if we're just going to do this and we're going to realize this, then we'll take the leap. And that everyone also says, we just have to do this together. That that is certain. So it just gave them direction to finally take an important step."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F18: Boundary spanning activities case H

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"But in the end, I think we have two workshops, or one, one or two workshops we really did with the whole group and then we split up, because in general you can really do it together, so the OMC and actually on indicate outlines per domain, so finance or HR, where determines the specificity, that is fine in a mixed group. And that's good too, because then they'll understand each other, but you really only have generic processes and I'm sitting here trying to be sick, but we're in completely different worlds."
	Coordination of teams, tasks and projects	No	
	Building and maintaining networks	Yes	"But what I think is very important about this method is that we include people in this form of workshops and many interviews. Look, if I show you a picture with here you have to standardize and these are the reasons why then you think okay, yes fine, but then you are not included. And I think the real power is in this kind of thing, that's really letting people be a part of the process."
	Representing and influencing	Yes	"Because it's not for nothing, as I say, that we put in three heavyweight directors to join forces. That we, maybe I can say from our background and skills that we are good at giving presentations and interpreting the story. That we invite ourselves more often and are asked to tell the story. Yes, that must not be a coincidence. But it is just a matter of behavior from the three domains that happen."

Table F19: Boundary spanning activities case I

Concept	Subconcept	Present	Evidence quote
Activities	Information and knowledge management	Yes	"We went to talk about Christmas dinner with turkeys in this project. When you talk about outsourcing, a number of functions will of course disappear. And company J, certainly when the company was still going very well, they were a very rich and responsible employer. So we have that context. Uh we knew and it was also the request of employee X, especially in his approach that we would also take people along in our thoughts. So I also did two sessions, where I talked about what could happen and what it could mean for people. So that could mean your job is, uh, lost."
	Coordination of teams, tasks and projects	Yes	"So one of the missions we had then was to bring those two sides closer together. But there was still relatively little interaction between company J and the other IT departments of the mother company X. So there was also a kind of knowledge gap. So in fact the OMC has also helped in that cooperation to actually bond with company X in order to take the next step there."
	Building and maintaining networks	No	
	Representing and influencing	No	

Table F20: Boundary spanning activities case J

F.3	Boundary	spanning	objects
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Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	Yes	"I think the commitment and confidence of the management of company A in us and in the way of working we had. That that has been a very important successor. And also that they had the conviction, including the tools we worked with, that that could work for them. And that's yes, that just worked really well. I think that has been one of the key success factors of the entire project."
	Common understanding	Yes	"But everyone was like that. But in any case, the top management was really convinced that this is what we should do. This is the only way in which we can simply do the objectives we have for the project of company A. This is what we're going to do."
	Enabling	No	
	Translating	Yes	"And there I also just say like, well, you know to be able to talk to each other we have also just made an OMC, so to speak. And we literally printed it on an A0 sheet. And we discussed this with the customer. And then you see that, well the customer is very enthusiastic about that. What you can see with just one look are a number of elements that are crucial for your service. And you often easily establish the relationship between different parts and, whatever, often the layer is more at a tactical level and the primary processes are more in the middle. And that it helps enormously to also discuss new forms of service with your customer."
BAM as boundary spanning object	Used by roles	Yes	"I think the commitment and confidence of the management of company A in us and in the way of working that we had. That that has been a very important successor. And also that they had the conviction, including the tools we worked with, that that could work for them. And that's yes, that worked very well. I think one of the key success factors of the whole project has been."
	Common understanding	Yes	"But in the end it was established and those things were also hung on the wall. That's how we're going to work."
	Enabling	Yes	"And I do have the feeling that it can do even more than what we used it for. So we mainly applied it for the plotting of our projects and the layout of our departments and the type of way of working. So those are three parts that we draw uh beautifully but where we actually used it as a coat rack"
	Translating	Yes	"Yes, it's just a lovely handle. It's a lovely frame. It's a delicious one. And yes, you can do a lot more with it, I think than what we have done, it is. You can move in time with it."

Table F21: OMC & BAM as boundary spanning objects case A

Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	No	
1 0)	Common understanding	Yes	"The goal of the OMC is to create a shared vision of the company's business activities. Has this goal been achieved or not in this project? Yes, definitely. Because we only had some discussion about the information supply."
	Enabling	No	
	Translating	Yes	"No, it's funny because we made a first draft. And, well, I will now give another Menzis example. But as soon as we showed it, it was like no, but customers have to be there, because that is really the core of what we do. And people quickly understand. It usually needs some explanation because there are many different facets to it. On the left you have those customers and those channels and on the right your activities, but people immediately understand that oh yes, it says that. Oh yes, and the supporting is underneath it as a kind of pillars. So yes, they understand very quickly."
BAM as boundary spanning object	Used by roles	No	
	Common understanding	Yes	"Well, like I said, they did see themselves as very, very, very, very special. That's natural, specificity was not yet very clear. But I was happily surprised at how united they really were, about certain activities. And some really good discussions emerged. And what I found especially special is that they very much agreed that they did not have any purple activities."
	Enabling	No	
	Translating	Yes	"Yes, everyone can understand it. Information Supply had to be purple, convinced because we have people with unique skills at home. Our assets are with the people and the data and Finance. Object X was really unique, that would have been made purple. That's what we called it.

Table F22: OMC & BAM as boundary spanning objects case B

Concept	Subconcept	Present	Evidence quote
OMC as			
boundary			
spanning object	Used by roles	No	
	Common		"No, what I just said actually, huh. That shared image has succeeded.
	understanding	Yes	Even across divisions."
	Enabling	No	
	Translating	Yes	"I think that It's not a very complicated concept, is it. You actually divide the business operations into a number of core activities. And they are generally quite comparable across sectors and across the industry. So people understand this well."
BAM as			
spanning object	Used by roles	No	
	Common understanding	Yes	"Yes, say, so the application landscape that has been created is how which sub-processes do you cluster, to overlay an application. And how does that work with multimodality? So what wasn't there at the end of that part of the project was also an architecture or a choice of which applications that would be. It was actually still quite at the theoretical, almost academic theoretical level at which that was done."
	Enabling	Yes	"This is also two sided. And that is also evident from the track that we do, is that we also say guys, there is a lot of coloring which is green and blue. And that's why we also look for solutions from the market best practices that we can lean on and benefit from without sitting down to specify what it looks like. So the realization that they also have to adjust their processes. Also the expectation towards suppliers. Yes, but you may know what best practice is. So take us into how that works. That is the reality that has been realized. That's for sure."
	Translating	Yes	"Yes. Um, I have to say I think sometimes, because you validate it a lot and then, we think it's this, you're not always sure if people really understand what the point is. So we really did, also in the explanation guys, okay, we first indicate what is multimodality. We have also all given the White Papers to live in, to work in. And that is actually used to come to the coloring. And the validation itself actually went quite smoothly."

Table F23: OMC & BAM as boundary spanning objects case C

Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	No	
Common	Yes	"Bit of a standard question, but the goal is to create a shared vision. Did you think that was successful or not? I think so. But I think you should always look at this half a year later or something. Hey, are they actually going to act on this? When I see the pieces that they're making themselves, how are we going to make that strategy executable? Then the operating model is definitely in it, together with the multimodal colors!	
	Enabling	Yes	"Yes, we also want to use them in our strategy management in the future. So we're going to reuse a lot of components. So yes it works, unambiguity has to become the key. So if we do, if that is the reference plate, then we will continue to build on that, for example by moving certain segments further."
	Translating	Yes	"No, the OMC with primary activities, secondary activities. Well, we already had something like that in our capability model. So there's a lot of common ground with that. So, in that regard, it resonated with me as well. And I also think of more people."
BAM as boundary			· ·
spanning object	Used by roles	No	
	Common understanding	Yes	"So what, where do we really want to be distinctive? Those kind of things. That is very important to be on the same page."
	Enabling	Yes	"yes, we also want to use them in our strategy management. So we're going to reuse a lot of components. So yes it works, unambiguity has to become the key. So if we do, if that is the reference plate, then we will continue to build on that, for example by moving certain segments further."
	Translating	Yes	"So yes, we got a guest lecture. But I also have to say that maybe it's because I'm a bit more familiar with it now. But we also just got a new group. I also have the idea in one, in the fifteen minutes twenty minutes that it was intended to explain that it also worked. It is, of course it is quite clear."

Table F24: OMC & BAM as boundary spanning objects case D

Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	No	
	Common understanding	Yes	"Uh yes, mostly yes. So if it has achieved one thing uh, it is certainly that it was complete and that everyone also recognized themselves very clearly in the model. So in terms of completeness and everyone understood the model and there was quite a bit to be found in it."
	Enabling	No	
	Translating	Yes	"But we were sitting with, we had the top management we had at the table. Yes, and they are all smart boys and girls. And uh, very smart boys and girls. They are fast and can think fast. And they can separate the wheat from the chaff. And that also means that we had the OMC in two sessions. And also that modality on it too."
BAM as boundary spanning object	Used by roles	No	
	Common understanding	Yes	"Yes. No, absolutely. Certainly, and also a clear setting of, yes, where is purple, orange, blue, green here. We also challenged a lot, didn't we. Whether or not it is actually true."
	Enabling	Yes	"And the model with the four colors also indicated to us yes, come on, some things we really shouldn't try to do ourselves, we have to outsource them. And then we also looked at that, what are we going to use for this and that's how we got into it more and more."
	Translating	Yes	"But we were sitting with, we had the top management we had at the table. Yes, and they are all smart boys and girls. And uh, very smart boys and girls. They are fast and can think fast. And they can separate the wheat from the chaff. And that also means that we had the OMC in two sessions. And also that modality on it too."

Table F25: OMC & BAM as boundary spanning objects case E

Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	No	
Common understanding Yes Enabling Yes	Yes	"And you do that together with the business, huh? That's not an IT thing, because that's the functionalities you get in a business company. They did that together with the business and the question we ask is, what activities are you participating in? Then we will cluster them. So that operating model is the one key deliverable for me. With the creating of that model, say, the canvas, everyone does agree. So everyone agrees with that one, with that commercial canvas."	
	Enabling	Yes	"No, the operating model canvas is a constant topic of conversation for me. Because what you see is that. So when things don't go well, I can always fall back on that model. And say that has to do with this part of policy. So I'll give you example. We are now very busy with how a commerce organizes itself via many value streams. I'm not going to fully explain how that works, but they are value streams. Those value streams, so to speak, that they have set up. They don't fit well in the OMC and vice versa. Then you notice everything. Constantly rambling about. So for me the OMC is a foothold, because once that has been defined as truth, I can point back to that every time. Hey guys, that's because of this. And so if you haven't recorded something, this is the truth, then everyone will go along with their own interpretation before I even come to a discussion about what we should and shouldn't do. We spend a year on the truth. Yes, that takes too much time. So that canvas is real gold."
	Translating	Yes	"We made it very clear what the operating model was. Where the holes were in the operating model. Which is not going well at all. That is always very important to me, because very often in companies you see that when things don't go well in the execution, they don't go fast enough or too many mistakes are made. This often has to do with the operating model and what AMG is very good at is making that clear. So that operating model canvas, so to speak. They always provide a lot of insight. Because it gives a kind of overall picture on an abstract level, which is understandable. But what does have sufficient depth to also indicate where things are not right. So we have completely drawn up the operating model."
BAM as boundary spanning object	Used by roles	No	
1	Common understanding	No	
	Enabling	No	
	Translating	Yes	"Yes, so the meanings, colors and definitions of I am all in favor of just yes, again."

Table F26: OMC & BAM as boundary spanning objects case F

Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	Yes	"So we weren't quite there somewhere Of course we had already used post-its in those workshops, didn't we. Nowadays it often goes through screens, but that was really still, uh, all kinds of things with us, huppakee, printing and. So we were like, uh, it was workshop six or seven and the thing looked pretty good indeed. He says, can I take it with me? Because I have a supervisory board meeting in a minute. And I already want to use it."
	Common understanding	Yes	"How that company works. And of course that was the IT thing together. Shit, but now they're going to get it. Yes. So that was real. It was kind of a celebration of recognition. And that's what the CFO says at the end: yes, well, compliments. Because it is really the first time that someone has succeeded in presenting this company on one picture in an understandable form. And that, so that was it. Uh, it often happens within the stakeholders, doesn't it."
	Enabling	Yes	"It's actually that they could say: I need a document. That's called IT strategy and there's something in it. And then I can show a third party, hey, tap in the box. Look, I did my job nicely too! Until they went, no, I'm just going to do this. This will just be my bible and my guideline as I vision IT. So that wasn't real. No, I don't think they were aware of that at all in the beginning. And in the end it just took longer. But he still thought it was worth playing. Even longer, even deeper and even better."
	Translating	Yes	"Apparently we had put so much business language into that visualization. So yeah, but now they're getting it. Yes, exactly. We give them a record, they get it. And they are proud of that. We are indeed. And then we go there, do we just tell our strategic ambitions in our IT. So then we really knew from now on we got it."
BAM as boundary spanning object	Used by roles	No	
	Common understanding	No	
	Enabling	Yes	"But we only came two years ago when we came up with all that multimodal thinking. Then employee X was kind of like hmm, something new from you, you know. I don't want something new from you every three years. Do you know how hard it is to get things implemented here. It did explain a lot of things though. And then he gets excited again in the end because he thinks yes, shit. Yes. Do you know? That whole orange area in logistics where all those events and all that data are. And yes, he understands that value. And he also understands that it is specific in that. And ultimately that it also gives a kind of consumer loyalty of well if. () That, by the way, is the world of digitization. You cannot sit still.
	Translating	No	

Table F27: OMC & BAM as boundary spanning objects case G

	Concept	Subconcept	Present	Evidence quote
	OMC as boundary spanning object	Used by roles	Yes	"Well, he might have been nice, too, uh, when we started with that ERP. Then eventually we came, yes and consultant X, and those records. And then I thought, O God, they're not going to tell them not to go in. But they wanted those plates to be offered to the suppliers on A0 as well. So sent to the suppliers. And uhm, after the workshp, the operational director also came to me and he said consultant X, I'm very happy with this. Also in finance, you name it."
		Common understanding	Yes	"Yes, we have literally determined all activities together. Everyone has done it, the same goes for multimodality. All activities are discussed in the workshop. We then, uh, we as Anderson MacGyver just made a pass. And literally, I just said in that workshop we got them a piece of paper on which it was worked out. And then we had a conversation about how you view it now and then we captured that in the model."
		Enabling	Yes	"Look, the approach was ERP implementation. But if you then look, partly from the strategy first and the OMC. Yes, then you see that it actually affects your entire application landscape. Me and my IT colleagues were already aware that it will also affect CRM systems and an x system and multiple agents and systems. But hey, those views are now company-wide."
		Translating	Yes	"Was it an understandable model for everyone? Was everyone able to participate in the discussions concerning the OMC? In the end I just look: yes. Things are also hung. And I know a lot of everything and you name it."
	BAM as boundary spanning object	Used by roles	Yes	"Well, he might have been nice, too, uh, when we started with that ERP. Then eventually we came, yes and consultant X, and those records. And then I thought, O God, they're not going to tell them not to go in. But they wanted those plates to be offered to the suppliers on A0 as well. So sent to the suppliers. And uhm, after the workshop, the operational director also came to me and he said consultant X, I'm very happy with this. Also in finance, you name it."
		Common understanding	Yes	"On the other hand, you have achieved through those workshops and through that way of recording that in the end everyone looks at the same way, in this way our company has to change."
		Enabling	Yes	"Of course, it supports the ERP process. And certainly with that modality, hey, this is a core activity. This is more best practice. And this is too specific for us to really be able to do anything there, that's the beauty of the model."
		Translating	Yes	"And uh, so that's one and then we had a workshop where I explained what multimodal was I think in five minutes. In the whole group. So really super fast. Look guys, this is it. We'll take it in. Then the operational director Michiel said, guys, pay attention now, this is important. That's literally how it went. We were really in a huge room. Yes, and then we just, well if you see the OMC I started with uh seasonal collection. And then I just explained what it says there. And just said how we arrived at the coloring. And then we went through them one by one. And then we had a discussion about that. And then we ticked off in an hour and a half, or something like that. An hour, and then it was just done. And then we adjusted the notes, that's it."

Table F28: OMC & BAM as boundary spanning objects case H

Concept	Subconcept	Present	Evidence quote
OMC as			
boundary	Line d has males	No	
spanning object	Used by roles	NO	"So we have that the fact that you're going to take a look together
	Common understanding	Yes	and hey, what are the activities that we do, does that provide a shared vision, yes because they agreed that these were their activities."
	Enabling	Yes	"That's why I said ten minutes ago this report is something of, has something of the shape of a game changer. Hey, because in the end we make it out of our truth, and now make it the truth. And what is happening now, which I have already given back to consultant X, is that this report is leading a life of its own in a positive way. So the awareness is now being converted into insights that it can no longer go on like this. And that we have to fundamentally change. That we have to go green. Well, so the report is for us, and that was ultimately our agenda, the report has been an enabler for us to finally get something going. And that's really happening right now."
	Translating	Yes	"And the final report speaks for itself, in which it also responds to the current way of communicating, because the current way of communicating, just look at how I use our mobile phones. Why is Instagram so popular? Because you don't have to read very much."
BAM as boundary spanning object	Used by roles	Yes	"So these were people who were not involved in the process, because they really fell outside the scope, but the Finance director, who was involved, said it would be nice if you come and tell us something and take people along. So that in itself was nice that Finance went ahead with it. That's what brought it about."
	Common understanding	Yes	"Yes, I think so. I think it helped a lot to structure the thinking process. So about people, um, also within such a group, so suppose within HR, for example, there were a number who, everything is green here, that in itself is a great approach, because that is where you want to go. And some who say yes everything is special and we have managed to bring that together. So in that regard, I think it certainly succeeded."
	Enabling	Yes	"That's why I said ten minutes ago this report is something of, has something of the shape of a game changer. Hey, because in the end we make it out of our truth, and now make it the truth. And what is happening now, which I have already given back to consultant X, is that this report is leading a life of its own in a positive way. So the awareness is now being converted into insights that it can no longer go on like this. And that we have to fundamentally change. That we have to go green. Well, so the report is for us, and that was ultimately our agenda, the report has been an enabler for us to finally get something going. And that's really happening right now."
	Translating	Yes	"But that way of thinking is very much at the core of multimodality and so we have often applied it with other customers and developed it further, so I think that without multimodality, we would have got there, because we didn't use this model, but the basis of the thoughts and the fact that we have experience in it and can visualize it well has helped us a lot. Whatever you see in the final report, those pictures, it's a very simple picture, they are boxes on boxes, but it does show very clearly where everything is orange and where everything is green. That does something to people. Even if it is a very simple picture."

Table F29: OMC & BAM as boundary spanning objects case I

Concept	Subconcept	Present	Evidence quote
OMC as boundary spanning object	Used by roles	No	
	Common understanding	Yes	"Gradually they will be added again, so you also get a lot of completeness. Because not everyone just had the complete overview, which also helped. That OMC also helped to create the overview."
	Enabling	Yes	"So one of the missions we had then was to bring those two sides closer together. But there was still relatively little interaction between company J and the other IT departments. So there was also a kind of knowledge gap. So in fact the OMC has also helped in that cooperation to actually bond with the mother company in order to take the next step there."
	Translating	Yes	"Ik vond dat wel duidelijk verhaal. Wat we daar in moesten kleuren. He, dat waren bepaalde rubrieken. Ja, ik weet die rubrieken niet precies meer, maar die hokjes. Je moest die hokjes inkleuren. Van welke diensten? Hoe zit het in elkaar? Uh nee, ik vond dat wel een duidelijk duidelijk model."
BAM as boundary spanning object	Used by roles	No	
	Common understanding	No	
	Enabling	Yes	"Multimodality is a hugh coat rack."
	Translating	Yes	"I thought that was a clear story. What to color in there. Hey, those were certain sections. Yes, I can't remember exactly those sections, but those boxes. You had to color those boxes. From which services? How does it work? Uh no, I thought that was a very clear model."

Table F30: OMC & BAM as boundary spanning objects case J

F.4 Boundary spanning achievement

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"You just notice that, well, a party like AMG acts more on a tactical and strategic level, so to speak, and we often act on an operational and tactical level. And that, well, that match with, you know, that strategic perspective, that that was very strong in the combination. And we really worked together. Did you know that we sit together at the table and then write pieces and then supplement and then present again. This is what it has become. review. So we just did this as a team.
Continious use		Yes	"So it's not just that we split the projects a bit on your multimodal model, but actually also our departments."

Table F31: Boundary spanning achievement case A

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"Because we also told them that they do spend more on IT than average. And I think they expected that. This is of course visible in the figures. But I do think some of those department managers are really shocked at how far above the benchmark of normal they are. So I guess uh, but they did take that really well in the end. So you saw, she thought for a moment like oh, shit. They take a moment. But uhm, I think they were subconsciously aware that they were sitting with way too many men."
Continious use		No	

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Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"So the organization had to get used to that. But the great thing about the project was that once they got used to it, they all saw that it could be, really, really valuable to do it that way. () Well I think that what we can say from well there, we have at least succeeded in identifying those sub-areas. So with us, which activities can you cluster together and immediately try to change with an application or at least in a phase of the project."
			"No, I'm the main person who says that. But I do use it to bring people back to the table. He, that's what we came up with together. It's also a way for me to, well actually, keep the frogs in the wheelbarrow and stuff because otherwise it will go in all directions. So this is what we came up with and it's a really good tool to saym when people look at their individual functionality or project, yes, but it's not about your individual business activity. It is important that we organize everything as good as possible in total. And then it's not the case that only your part should be one hundred percent. But if it's ninety percent for all the pieces, that's still the best. Instead of it being optimized on each individual block, because then you will not be able to work with your business principles and your IT principles. And then I refer back to the model again. But you all want that, don't you, the same as us, don't you all want that data? Being able to access it directly in a good, efficient and easy, reliable way. Yes, then we don't have to build next to it in all kinds of things separately. And then I
Continious use		Yes	also use this overview again to go back.

Table F33: Boundary spanning achievement case C

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"It's kind of in line with what I just said. So the point is that we make the What we actually already knew, make that explicit and also offer the tools to do something about it. I think that was what I wanted to achieve with this. That is what we have achieved with that."
Continious use		No	

Table F34: Boundary spanning achievement case D

Concept	Subconcept	Present	Evidence quote	
Boundary spanning achievement		Yes	"I will say of the three exercises we did, this was the most successful. And that's not just to say something about AMG. It is mainly about the fact that we got what we wanted: the restructuring, getting some more business and IT together, has finally succeeded. We are, is that just AMG's exercise? No. Did that help? Yes, that has certainly helped them as an external partner. And again the start to think about more in capabilities. Yes, that was a bit forced, imposed by AMG. And that's good, because I think as a company we need that push. So for me this was, and I think for many others it has certainly been successful."	
Continious use		Yes	"And we recently spoke with two others, say two of those directors, on the IT side. And then we just talk in our colors, so to speak."	

Table F35: Boundary spanning achievement case E

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"But no stupid answer. I think it is successful. And why? Because putting down a vision, so to speak, is meant to get there, so to execute. What I really like is that due to a convergence of circumstances. And they are not. That's nothing, of course we also enforced that ourselves, by the moment company X takes over us and they need vision because they want to invest money. That we already have the vision ready. That's a win for me, so to speak. If company X comes to us and says what is your vision? And we all start uh You know, I think that's really bad. So I think it's successful that we came up with our own ideas, without anyone giving me an assignment. I just want to know where I'm going. And that that is also made and is also accepted and everyone agrees with this. I consider that success."
Continious use		Yes	"So multimodal coloring was emphatically reflected in that decision-making process. We are now a year and a half later in execution."

Table F36: Boundary spanning achievement case F

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"If you say I want to be the best and I want to be able to follow all that and be able to adjust and () and all can. Then you just have this. You have to give a lot of priority to logistics IT. Three of the major innovation domains all have to do with all the technology we need for logistics. Yes, they suddenly understood. Yes, try to support that. Yes."
Continious use		Yes	So employee X presents last week and I think in three, four of his slides, he's still using our model.

Table F37: Boundary spanning achievement case G

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"Well, I do think it has been successful. Because we can and are allowed to restart this process, because of the kind of doing, of the owner of the company. And that was just necessary. To achieve it this way. To include him in that too. And to provide insight into why and we agree that the company must change."
			"The only way we do that. Is that what we're actually saying? So I was just talking about those fourteen topics. We actually turned those into use cases that we want to see in those demo sessions. And actually, use cases are again related to user stories that are very much dependent on that modality model. And they are also asked where in the request for the ERP, to which ERP from X to explicitly indicate on all those individual user stories how and to what extent the ERP system supports these matters. But in the demo we took that to a slightly higher level that we just really use that use case instead of the individual user stories from the demo. Because that use case is a
Continious use		Yes	collection of perhaps eight out of ten different user stories."

Table F38: Boundary spanning achievement case H

Concept	Subconcept	Present	Evidence quote
Boundary spanning achievement		Yes	"And I also think that it is nice for the client that people from the entire organization have been brought along and that he has his own story. So successful in that regard."
Continious use		No	

Table F39: Boundary spanning achievement case I

Concept	Subconcept	Present	Evidence quote
Boundary			
spanning			
achievement		Yes	"Well, I thought it was a successful project."
Continious use		No	

Table F40: Boundary spanning achievement case J

F.5 Indispensable to boundary spanning

Concept indispensable	Present	Evidence quote
ОМС	Yes	"So if you look at project X, we really enjoyed making those models and we see a lot of added value in doing that with the customer, so to speak and further developing and recording."
ВАМ	Yes	"That was the way we did. So we did not have that without multimodality. That's how we wanted to do it, because that was key, that we wanted to do it that way. So we wanted to look at those business activities. We wanted to define that decoupling point. We wanted those business units to be on top of each other and we could only do that with this tooling."
Role	Yes	"What they have done well at AMG is the mixture of the people in the team, so to speak. So X was a bit of a puller. Y, he was more the wise man so to speak. Who often sat at a distance and then made really sharp remarks to make things better. And the other man Well, <i>Z</i> , you know, he always asks annoying questions. And is that true? You know, so he often does things to sharpen things up, which just eventually leads to improving the model. And there was someone else too, but I've lost his name because he doesn't work with you anymore."
Activity	No	
Object	No	
Other	No	

Table F41: Boundary spanning indispensable case A

Concept indispensable	Present	Evidence quote
ОМС	Yes	"And so the OMC and multimodality were indispensable in this. We really came to conclusions based on the colors we gave to business activities."
BAM	Yes	"And so the OMC and multimodality were indispensable in this. We really came to conclusions based on the colors we gave to business activities."
Role	Yes	"well, we do have an individual who plays a very big part in that. Well, that's X. As a pilot for this project, X has set up a multimodal sizing, i.e. a signing benchmark based on the colors of multimodal analysis. Well he was SMI in our project. Subject Matter Expert. And he built this whole, this whole algorithm based on multimodality. So he was pretty indispensable on our part."
Activity	No	
Object	No	
Other	No	

Table F42: Boundary spanning indispensable case B

Concept indispensable	Present	Evidence quote
OMC	Yes	"I think it's OMC that we needed that. Especially if you start working for two or three years. Also with external parties. Yes, then you have to define some kind of joint reference. So uh, that's one."
ВАМ	Yes	"The multimodal coloring. This has also helped to provide support for the technical solutions. And if you hadn't. Yes, then you will get a lot of customization questions. With the standard solution, which makes that implementation very expensive or that supplier does not understand either, what do you want? Do you want to adapt yourself to my best practice or do you want your own custom system? So in that regard, I think it is! It has to be said, the caveat is that we mainly touch on common and value ad activities. And less will say, the orange and purple multimodalities."
Role	No	
Activity	Yes	"One is the moment in time when you formulate the strategy. Because you are not going to reformulate your strategy every year. Then it is at most you choose a certain horizon and maybe you adjust it a bit. And that also means that you have to get a little rest to get inside. You also have to set the goal and then you also have to be given the time to get there and make adjustments during the course of time. But you shouldn't be very restless that you have to get there every three or six months and then you're going to reposition your goal."
Object	No	
Other	Yes	"And I think another important point is the dosing. How much can you change at the same time? Because the business continues and you cannot open three tracks in parallel if you change an entire landscape. That that doesn't work. And there you have to agree with the yes, with that client and with the management you have to come to a kind of agreement with dude, what has priority"

Table F43: Boundary spanning indispensable case C

Concept indispensable	Present	Evidence quote
ОМС	Yes	"What can be seen as indispensable? For this assignment, the multimodality, in any case. You can't really see that separately from the OMC, so yes."
ВАМ	Yes	"You see, that multimodal coloring is very much in response to yes, we don't have to do everything the same way. And we now also understand where the differences are and why what differences should do. So that helps. And they now also have a hold on where. Yes like that. Something to fall back on, to make choices."
Role	No	
Activity	Yes	"So in the end it's more in the second part for me in which we looked at which transformation do we have to go through and how can we shape that? And yes, what will be the frameworks that we are going to set in order to follow our ambition? That, and that is actually, is also the basis for the sequel. And with that we still have that operating model Canvas as a kind of starting point. But we're going to make that difference in how we're going to apply it."
Object	No	
Other	Yes	"What has helped enormously here I think is the just honest open attitude of everyone. So ordinary, it is seriously challenged, but it is with the idea of coming to a solution together. Is everything, a lot has simply been discussed there."

Table F44: Boundary spanning indispensable case D

Concept indispensable	Present	Evidence quote
ОМС	Yes	"There is no question that this was just a very important part of, an important resource in our advice. And also how we got the assignment. And yes, it really helped them further, so to speak. () Yes I think so. Look it's uh. Look, in the end that's also the reason why we got that assignment. Look it is yes. It's natural, unique selling point sounds like that, but of course it is. We came up with this. We know it works. We have a track record on this. To put it bluntly, we have left the competition behind us. As for having this assignment. So yes, they undoubtedly have something in a way too. And to shape an organization of course. There are several that can. But apparently this appeals more than what the competition had to offer. Because we were in competition in this assignment."
ВАМ	Yes	"There is no question that this was just a very important part of, an important resource in our advice. And also how we got the assignment. And yes, it really helped them further, so to speak. That whole coloring. Literally giving color to your business activities and thus also to digitization."
Role	Yes	"So the team was the far most important factor."
Activity	No	
Object	No	
		"This was brought with a certain calm. And a certain detachment. We've already had a partner who tries to do the same exercises and is very passionate about it with more drive from you to adapt or if you don't, then in the long run it will. And so on and so on. But AMG has brought that very business-like. We see a challenge here, because so, so that can be the result. () So those are two factors for me that have worked very well, being the very professional, calm approach. And offer a matter of fact plus a model that you could actually easily
Other	res	convert into reality should you choose."

Table F45: Boundary spanning indispensable case E

Concept indispensable	Present	Evidence quote
ОМС	Yes	"No, the operating model canvas is a constant topic of conversation for me. Because what you see is that. So when things don't go well, I can always fall back on that model. And say that has to do with this control. So I'll give you example. We are now very busy with how a commerce organizes itself via many value streams. I'm not going to fully explain how that works, but they are value streams. Those value streams, so to speak, that they have set up. They don't fit well in the OMC and vice versa. Then you notice everything. Constantly rambling about. So for me the OMC is a foothold, because once that has been defined as truth, I can point back to that every time. Hey guys, that's because of this. And so if you haven't recorded something, this is the truth, then everyone will go along with their own interpretation before I even come to a discussion about what we should and shouldn't do. We spend a year on the truth. Yes, that takes too much time. So that canvas is real gold."
BAM	Yes	*Talks about indispensable* "And then apply the coloring to it."
Role	Yes	"Well, look, want to make the vision so to speak. That comes a lot from me. So I wanted to have that vision, so to speak. I wanted to know where on earth are we going with this team. For example, the one who kept it, who kept it very much together, was consultant X. X has a certain charm about him, you know, such a model canvas, to question people. He's a calm guy who can keep asking questions that you can cultivate confidence in the end. I think if. If we hadn't got up, it wouldn't have happened."
Activity	Yes	"And the second thing is, the moment you do it, it's all plan-making, of course. It's all still on paper. The moment you really start to convert that to execution. If you then ensure good ownership on the customer side and really get good ownership of the movement in motion. So people who really stand for it and who also stand for the results you want to achieve with it and who also work hard for getting the right people on board and for the deadlines you set. I think that is a second that is crucial. So it's according to the ownership to also, well, bring it to something that is on paper. It does look very nice, but if you really start working on it, you will also get into the clutter of everyday life with things that don't work well, people have to stand up who really keep their backs straight and make it work. I think I would, just say the two elements that are crucial."
Object	No	
Other	Yes	"The first is the involvement, especially at the beginning of this process, the involvement of the business itself. So we started with the OMC and made a plot of what are the major strategic directions company F wants to take? And where are the bottlenecks in that operating model? And do that with a representation from the business, so with a blend, say, of business and IT. That is really super important."

Table F46: Boundary spanning indispensable case F

Concept indispensable	Present	Evidence quote
OMC	Yes	"Did we need a method to get to this result? Yes, definitely. "
BAM	No	
Role	No	
Activity	No	
Object	No	
Other	Yes	"The projects that were succesfull, had a problem they have solved. The projects that failed or were not really succelfull, did not solve a problem or the problem was not clear enough. () I can name a lot of things, but in the end, the most important thing is of there is a problem you are going to solve.

Table F47: Boundary spanning indispensable case G

Concept indispensable	Present	Evidence quote
ОМС	Yes	"Yes, then I speak for myself again that is also pure Yes, there are a thousand and one models. You can also do it differently, but I think this just works. So yes I uh, see you again hey, if you look at company X,. Uh also done the same way. Uh, I don't think you'll get to this result any other way."
ВАМ	Yes	"Well, I still think that methodical approach, with those two parts of the coat rack that we are now talking about. That should just serve as a guideline, the coat rack simply works very well to bring those things together. And finally, everyone out there, getting on the same page again of yes, this is who we are or what we want to become. And we look at that in that way with regard to those colors and that modality that that is unanimity, that everyone sees it in the same way and that that is subsequently input to achieve that change in terms of support by systems. So that's a really nice methodical approach."
Role	Yes	"When you talk about the guidance of consultants from AMG, then it is always, in my view, more about the guy than the agency itself. Then you notice that one consultant can hit a sensitive chord and the other is less likely to reach it strategically. And sometimes a consultation has to shout something to finally get something out. As I say, not everyone immediately shows the back of the tongue. Then you need different types of consultants. And I think it worked well by putting multiple types on there. Although you quickly get that I have a preference for this or that and someone else has it the other way around. It also depends on who you are as a person. So that will always be that way .
Activity	Yes	"Yes, I think something like that. I think it has also helped them, apart from the method, that they set a goal themselves during those workshops."
Object	No	
Other	No	

Table F48: Boundary spanning indispensable case H

Concept indispensable	Present	Evidence quote
OMC	No	
BAM	Yes	"And I think as a concept, multimodality has been important. Thinking about the activities was super important, because that is the essence of our, basis for the generic/specific, what are the activities. And on top of that, where are you generically specific."
Role	Yes	"That concept plus employee X as client was key."
Activity	No	
Object	No	
Other	Vas	"No, we didn't have a hidden agenda. And as a result, we have not focused on the output. We really just wanted to. Uh yes, independent advice. Based on own input from the workshops, but set against the image from outside."
Other	Yes	"No, we didn't have a hidden agenda. And as a result, focused on the output. We really just wanted to. Uh yes advice. Based on own input from the workshops, but s image from outside."

Table F49: Boundary spanning indispensable case I

Concept indispensable	Present	Evidence quote
ОМС	Yes	"Yes, you ask that question and as you ask it, I thought I would, I would also mention those models as an important factor. And especially the simplicity. And that is especially of the multimodal model. The OMC is a bit more complex, but that multimodal model, its simplicity. Just four flavors. And then ask there. So sorry, answer to your previous question, but that was the simplicity of that multimodal model in particular."
ВАМ	Yes	"Yes, you ask that question and as you ask it, I thought I would, I would also mention those models as an important factor. And especially the simplicity. And that is especially of the multimodal model. The OMC is a bit more complex, but that multimodal model, its simplicity. Just four flavors. And then ask there. So sorry, answer to your previous question, but that was the simplicity of that multimodal model in particular."
Role	Yes	"Certainly, and especially consultant X's efforts, they did surprise me. Because yes, I was at the time of the operation and so I was in the meetings where Y and X were working together. Well, I can tell you that Y has asked a lot of X and that it has sometimes led to, yes, that sometimes something happened between the two gentlemen and uhm, so I thought that was okay, yes, nice to see how that worked out.
Activity	No	
Object	No	
Other	Yes	"I think the latter, that open attitude, but Klaas worked very hard on that, especially to make sure that we were going to do that and that run-up, that that was important. Also took the time."

Table F50: Boundary spanning indispensable case J