How managers evoke ambidexterity and collaboration

A qualitative study in a Dutch hospital

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Abstract

While many organization aim at achieving multiple, sometimes contrasting, goals (such as combining innovation with efficiency) not that much is known about what managers can do to create organizational ambidexterity. Theory suggests that organizational ambidexterity requires collaboration with organizations and that, in turn, managers can facilitate collaborative relations. Nevertheless, so far, the link between management, collaboration and ambidexterity has not been fully investigated. We conducted a qualitative study in a Dutch hospital to map this link. The results show that there is evidence for this link. The main conclusion of this study is that managing collaboration and ambidexterity are processes; organizations switch between innovation and exploitation instead of being ambidextrous all the time, managers have an active role in guiding this process by creating collaboration through 4 distinct mechanisms (discipline, stretch, trust and support) and ambidexterity in turn strengthens collaboration through increased interdependency.

Key words: Ambidexterity, collaboration, collaborative communities, management roles, Dutch healthcare

Introduction

Two broad schools of thought can be distinguished in the literature on organizational goals: on the one hand there are those arguing that organizations need to be focused on one goal to be successful and others argue that organizations can strives for multiple, even seemingly contradictory, goals (Thompson, 1967; Quinn & Rohrbaugh, 1983; March, 1991; Adler, Goldoftas & Levine, 1999; Raisch, Birkinshaw, Probst & Tushman, 2009; Cameron & Quinn, 2011; Moreno Luzon & Valls Pasola, 2011; Adler & Heckscher, 2013). According to the second position, organizations can be ambidextrous, according to the first position they

cannot. In the literature, there are different definitions of organizational ambidexterity. However, at the most general level, it refers to an organization's capacity to do two things simultaneously, namely: being able to incrementally improve existing practices, while being innovative at the same time (e.g. Raisch & Birkinshaw, 2008). Hence, organizational ambidexterity is defined as combining exploitation and exploration, which require different learning processes within organizations. While exploitation refers to refinement and efficiency, exploitation is defined as discovery and search (March, 1991). Now, organizational ambidexterity may become increasingly important for organizations for several reasons, such as an increasing knowledge-intensity of work, intensified external demands, and the interactive co-production of services replacing mass production. Given that for some organizations being ambidextrous is vital for their performance, to them the main question is how to achieve that.

This question is not fully answered in the present literature. There are, nevertheless, several suggestions found in prior studies of how ambidexterity can be managed. In this study, we investigate an integrated model that links ambidexterity to collaboration and management techniques supporting collaboration. All three factors received attention in the literature (Ghoshal & Bartlett, 1994; Adler, 2001; Gibson & Birkinshaw, 2004; Gupta, Smith & Shalley, 2006; Carmeli & Halevi, 2009; Adler & Heckscher, 2013). However, to date they have not been investigated in unison. So, while it is suggested that organizational ambidexterity requires intra-organizational collaboration, which in turns is affected by the management of an organization, this link has not been demonstrated empirically.

The present study does examine this link in a hospital setting. Within hospitals the need to have organizational ambidexterity increased due to a variety of demands placed on them by insurances companies, clients, and governments. To meet these demands, hospitals need to deliver healthcare as cheap as possible (requiring exploitation), while they are also

geared towards improving existing capabilities (requiring exploration). To achieve these goals professional collaborate, raising the question with whom and how they cooperate to achieve organizational ambidexterity. Finally, from the viewpoint of hospital management, the practical question is whether collaboration and ambidexterity can be managed, and if so, how. We aim to answer these questions by means of a qualitative study in a hospital in the Netherlands.

Ambidexterity, collaboration and management

Collaboration and organizational ambidexterity

In principle, organizational ambidexterity can be achieved in two ways. The structural perspective argues that managers should create separate business units that focus on either innovation or exploration (O'Reilly & Tushman, 2011). The contextual perspective on ambidexterity states in contrast that exploration and exploitation can be achieved simultaneously within one business unit. This can be achieved by building a context that encourages individuals to make their own judgments as to how they divide their time between conflicting demands for innovation and exploitation. Through creating this encouraging context, individual and collective behavior and collaboration can be facilitated (Gibson & Birkinshaw, 2004; Carmeli & Halevi, 2009; Adler, Kwon & Heckscher, 2008; Adler & Heckscher, 2013).

Whether organizations choose to have separate units for innovation and exploration or have one unit that focuses on both activities, at a certain point integration needs to take place if an organization is to be ambidextrous (Adler & Heckscher, 2009). This implies that collaboration is necessary, either within or between units, in order to fulfill the organization's purposes and to develop good practices (Adler, 2001; Adler, Kwon & Heckscher 2008; Adler & Heckscher, 2009). The assertion that collaboration is key to organizational ambidexterity is

often found in the literature. However, this raises the next question, namely what managers can do to stimulate and facilitate collaboration within and between organizational unites in order to create organizational ambidexterity (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004; Black et al., 2006; Carmeli, 2008; Carmeli & Halevi, 2009).

Managing collaboration and organizational ambidexterity

While little empirical research has focused on how managers can instill ambidexterity, researchers in this field acknowledge that management teams should play a role in enabling and developing conditions for collaboration and ambidexterity (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004; Black et al., 2006; Carmeli & Halevi, 2009; Raisch & Birkinshaw, 2008). In this study, we use the model of Ghoshal and Bartlett (1994) that managers can create collaboration through four mechanisms, namely discipline, stretch, trust, and support to guide our research.

Discipline concerns influencing the behavioral outcomes of members of the organization through control mechanisms (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). This mechanism arises in an organizational environment with clear standards, so individual responsibilities and expectations are evident (Lambooij & Koster 2016). In this way, collaboration becomes easier and meetings can be more open and honest when outcomes are discussed. This mechanism also contributes to the development of shared norms and values. Therefore, people become mobilized to manage through direct dialogue and become motivated to act like organizational citizens (Adler & Heckscher, 2013).

Stretch is related to discipline. This mechanism is primarily about stretching targets and how an environment is created in which individuals voluntarily stretch their own standards and expectations (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). Creating or having a shared ambition and a collective identity could facilitate this dimension and lead

to collaborative trust (Ghoshal & Bartlett, 1994; Adler & Heckscher, 2013). Therefore, a business unit should be freed from interdependencies through specialization and integration for building stronger links and creating room for horizontal integration and participation (Ghoshal & Bartlett, 1994; Adler & Heckscher, 2013).

The *trust* mechanism is believed to contribute to the spirit of cooperation (Adler, 2001; Adler & Heckscher, 2013). Three contributing factors for trust were found: the perceived fairness and equity in decision making processes based on objective data instead of individual deals, involvement of people in decisions that affect their work and having professionals instead of generalists in the lead who possess the required capabilities. This could improve trust in one's capabilities and skills as well, which could stimulate collaborative trust (Ghoshal & Bartlett, 1994; Adler & Heckscher, 2013).

The *support* mechanism is about managerial support and mutual support in the line of an organization. Access to resources and/or sharing of knowledge with other business units or outside the organization seem to be very important. Also, guidance and help from managers for employees to create collaboration matters. In this way, managers can mobilize employees to reach organizational goals, while employees have more autonomy for taking own initiatives, enabling them to work towards these goals (Koster, 2011). Therefore, managers should be less focused on control and the line should possess a certain level of autonomy (Ghoshal & Bartlett, 1994; Carmeli & Halevi, 2009).

Organizations need to strike a balance between these four mechanisms, as they can sometimes be paradoxical. Trust and support contribute to adaptability and discipline and stretch to alignment (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). Ghoshal and Bartlett (1994) also studied actions and events that could affect these mechanisms. In general, the activities they studied include investments in a higher frequency of feedback, open communication and a structure in which individual responsibilities are clear (Ghoshal &

Bartlett, 1994; Koster & Lambooij, 2017). Some of the actions seemed to affect more than just one dimension. Furthermore, their study shows that organizations with more consistent management had a higher capacity for ambidexterity and were more successful than the organizations with less consistent management.

Linking management, collaboration and ambidexterity

To summarize, some studies relate ambidexterity to collaboration and other studies investigate the link between managerial actions and collaboration. Far less is known about how these three factors are actually linked together. One of the few exceptions is a study by Carmeli and Halevi (2009). According to them, the key for this link may be found in what they termed behavioral complexity. Their research shows that managers can influence collaboration and ambidexterity. Behavioral integration is created through frequent information sharing that will lead to group decision making instead of individual decision making (Black et al., 2006; Carmeli 2006; Lubatkin et al., 2006; Carmeli & Halevi, 2009). Besides that, collaboration could enable a management team to exploit complementary resources and skills (Carmeli, 2008). As a result behavioral complexity of managers (the portfolio of roles they can perform effectively and their ability to give the right responses in a given situation) can evolve. Earlier studies showed that managers who are able to perform different or competing roles in different situations are perceived as more effective. Notwithstanding these insights, it remains unclear how management teams may contribute to creating collaboration for an ambidextrous organization and through which mechanisms this works in a hospital setting.

Method

Setting

This study was conducted in a Dutch hospital with around 1400 employees and a medical staff of 90 professionals. This hospital is a semi-public institution, meaning that they are funded through a mixture of public and private money. However, at the same time, the Dutch government introduced market principles, meaning that hospitals experience considerable pressure from health insurers and patients to be competitive. Recently, the hospital implemented the principles of Value Based Healthcare, which aims to maximize the care and value for patients through innovation or exploitation of current processes and reducing costs. According to Porter (2009), Value Based Healthcare means delivering healthcare in such a way that it is in line with the needs of patients. The concept of Value Based Healthcare not only focuses on the outcomes (getting better), but also on the process (how the patient is taken care of and cured), and on the long-term implications of that care (e.g. ease of returning to the labor market). In the hospital under study here, exploration takes place both with regards to products and organizational processes. For example, by introducing new methods for providing care, they aim at improving the quality of care and the speed of recovery. Furthermore, monitoring systems are developed to measure a wide range of quality indicators, hence providing insights in whether their care is really improving in terms of added value. Besides that, they introduced a new planning system to improve efficiency. At the same time, however, overall efficiency needs to be secured (e.g. these innovations should not result in additional costs, but reduce them) and existing routines need to be further improved. Hence, this method requires a strong integration of innovation and exploitation. To work successfully, different parties and departments have to collaborate to optimize the care for specific patient groups with specific medical conditions.

Respondents and method

A qualitative study was conducted to collect empirical data on how managers influence collaboration and ambidexterity in hospitals. To find out how social meaning is shaped and how social processes work, such as collaboration and influencing collaboration, an emic-approach were used (Mortelmans, 2009). In total, 13 respondents participated in this study; 6 professionals from the hospital, 2 managers and 5 Value Based Healthcare experts. An overview of the respondents is provided in Table 1. They were asked about their strategies and thoughts concerning collaboration and ambidexterity. The professionals and managers were asked about their experience with Value Based Healthcare in practice. In addition to that, interviews with five experts in the field of Value Based Healthcare were conducted to see whether there were other possibilities of hospitals to create collaboration and become ambidextrous. Having this external view, aims to increase the external validity of the research (Mortelmans, 2011).

[Table 1 about here]

Professionals of the hospital were interviewed about management, collaboration and ambidexterity. The interviews were semi-structured. An example of an interview question is: *'How do you think that management could contribute to collaboration within the organization?*', or: *'Which techniques do you use in order to create collaboration within the organization?*'. The theoretical concepts were used to guide the topic lists. Respondents were asked how organizational ambidexterity takes place and under which conditions organizational ambidexterity may arise, then they were asked about collaboration (how they see it, how it may lead to organizational ambidexterity and on what the prerequisites for collaboration are). Finally, they were interviewed about the kind of actions and techniques

that managers can use to create collaboration within the hospital.

Interviewing people in different positions aims to increase the objectivity of the research. The researcher tried to adopt an empathetic mind-set and was open to different opinions. The interviews were anonymized to make respondents feel safe to explain their thoughts instead of giving socially desirable answers. Moreover, this was avoided by asking questions in certain different ways. Nevertheless, while measures are taken to collect valid and reliable data, it has to be noted that the results are from a specific case and therefore generalizations need to be made carefully.

After conducting the interviews and transcribing them, the data were analyzed using a conversation analysis. Because the interviews were semi-structured and were based on the literature, a deductive analysis had been set up. During the analyses new themes were found from the empirical data. As a result, a combination of inductive and deductive methods was applied. The analysis consisted of combining matching answers, experiences and opinions and arrange them to different categories. As a result, common visions, linkages and conclusions have been found. These conclusions are to a certain extent connectable to the theoretical framework which has led to an answer to the research question.

Results

Organizational ambidexterity

Organizational ambidexterity was found to be fundamental within the hospital for maximizing the quality of care for patients, attracting patients, being able to compete and for getting contracted by insurers as they expect from hospitals to deliver a certain degree of quality of care. The answers of respondents concerning the question what ambidexterity includes can be divided into two themes. The first one is that they define organizational ambidexterity as a

process. The second theme is about the tensions that arise between exploration and exploitation, which is also about the division of tasks within teams and the organization.

Organizational ambidexterity is a process

Many respondents agreed that the hospital cannot only focus on either exploration or exploitation. They believe that innovation and exploitation go hand in hand and cannot be separated from one another. Once the organization only focuses on exploitation, it will fall behind compared to other hospitals in the environment. This could lead to a loss of patients and not getting contracted by health insurers anymore. On the other hand, when the organization focuses on just innovation, it could lead to a loss of quality of care. It was explained that the organization should also focus on optimizing innovations and thus exploiting the innovation. Many employees in the hospital are continuously innovating and exploiting. Especially the managers and professionals with coordinating roles are continuously busy keeping the machine running and, as they call it: 'fire fighting'. They try to detect where problems arise, solve them and take care of that it will not happen in the future anymore. This could be done by writing a protocol for it and standardize the process, for example. This refers to exploitation.

Additionally, respondents explained that it is essential to consecutively put the focus on innovation and exploitation:

"… and if you would only do new things ... so we could be doing all kind of tricks, but we do not control them and we have not developed them well, then you are also doing something wrong." (Professional 1)

This professional points out that innovation and exploitation are strongly linked. A sheer focus on innovation would be useless in this view, as it is crucial to exploit the new innovations. As respondents explained, it can become quite hard to exploit a new idea when innovations follow up too fast. Therefore it matters to innovate and exploit consecutively. This finding and the remark that managers are constantly analyzing and optimizing processes indicate that organizational ambidexterity is an ongoing process rather than a static state. This finding contrasts what other researchers have suggested. For example, Gibson and Birkinshaw (2004) note that once the focus is at only one kind of activity, it will be at the expense of the other. It appears however from the empirical data that focusing on both activities simultaneously will be at the expense of both activities. This strongly contrasts the part of the literature that rejects the possibility of organizational ambidexterity altogether and argue that organizations should either focus on exploitation or innovation (Quinn & Rohrbaugh, 1983; Gifford et al. 2002). As the professionals of this hospital emphasize, it may be necessary to ambidextrous. However, what they do in practices is that they are not constantly exploiting and innovation, but gradually develop a routine that switches from innovation to exploitation and back. Nevertheless, they also point out that this process does not evolve automatically and that it is not without tensions.

Tensions and obstacles

Implementing the Value Based Healthcare method within the hospital involves a new and innovative way of looking at the processes in the organizations. The basic idea centers on the idea of increasing the added value for patients. Moreover, doing that might reduce the costs in the long run. The focus of managers and specialists can sometimes differ, but this does not have to be a problem, as this manager explains:

"…, they go hand in hand, because a specialist says for example: I want a new device. Through this device I can do more, so it is more efficient, or the manager says: It has to be more efficient and then the specialist says: Okay, then I need this and that …"
(Manager 2).

This example shows that through collaboration between the managers, who tend to focus on exploitation instead of innovation, and professionals, who are focused more on innovation than on exploitation, it is possible to integrate innovation and exploitation. This is, on the other hand, not to say that these differences cannot be an obstacle. That is, for example, professionals work mostly together with specialists from their own medical field and hence tend to develop innovations for their own field. Managers, however, have to monitor the budget of the whole organization. They cannot always fulfill the wishes of specialists, because there are not enough financial resources or because the ideas are contradictory to the interests of other specialists within the hospital. This shows the potential tension that organizations may face if they need to innovate and exploit at the same time.

In the hospital, there is not a strong structural division between innovation and exploitation. Instead it is a matter of degree: professionals combine innovation and exploitation and managers mostly focus on exploitation. However, differentiation is visible within this organization to a certain extent, because different departments are built around different professions. Besides that, the professionals are constraint in their tendency to innovate, due to budgetary reasons. Overall, the way in which organizational ambidexterity is achieved in this hospital resembles the contextual perspective (Gibson & Birkinshaw, 2004; Carmeli & Halevi, 2009; Adler, Kwon & Heckscher, 2008; Adler & Heckscher, 2013). This means that they aim to achieve it by building a context that encourages individuals to make their own judgments as to how they divide their time between conflicting demands for

innovation and exploitation. As professionals possess a high degree of autonomy, they can decide for themselves to a certain degree how to divide their time among the activities. In this way, individual and collective behavior can contribute to organizational ambidexterity. Ultimately, these autonomous individuals need to align their activities and work towards the organizational goals. Hence, they need to collaborate. Respondents mentioned collaboration or certain aspects of collaboration as a prerequisite for ambidexterity. They emphasized that it is almost impossible exploit or to innovate without the cooperation of others.

Collaboration: Interdependence, mutual goals and efficiency

Next, respondents were asked about their understanding of the concept collaboration, what it contains, with whom they collaborate and how this can help in order to become ambidextrous.

What is collaboration?

When respondents were asked what collaboration means to them, they found it hard to give a concrete answer. Most answered that it means 'working together on something'. However, they were able to mention a lot of aspects about what they need to collaborate, conditions that could ease collaboration and what the effects of collaboration are. Their answers reflect themes such as interdependence, mutual goals and efficiency.

A main reason why people within the organization should be working together is because they are interdependent. They are involved in the same processes or it is because they share resources. Professionals mostly discuss their ideas with other professionals in their team to see whether they will support the idea. Once the group of professionals has made a decision, they will sometimes involve managers to see whether implementing the idea is achievable in terms of money and personnel. This can also be divided among other departments. This implies that innovations and exploitations are initiated by the collaboration

between professionals. For discussing medical content about patient groups that are shared with other professionals, professionals involve them to make agreements about the matter in question. Nevertheless, there is not always so much collaboration with other departments:

"Healthcare is vertically organized at this moment....the radiology organizes everything for themselves and the outpatient clinic organizes everything for themselves ... they all have a different planning and they are not in tune with one another…"
(Value Based Healthcare professional 3)

Therefore having a mutual goal is necessary for collaboration. By collaborating that goal can be reached. Especially within the Value Based Healthcare project, it is not about individual interests anymore, according to the managers. It is about the common goal to provide value for the patients. Through the Value Based Healthcare project, a team of employees and professionals is responsible for a population of patients with a specific medical condition. Moreover, the quality of care will be partly judged by the patient relevant outcomes for the whole group of patients with that medical condition that is being influenced by the involved parties. Patient relevant outcomes have been determined together and the common goal is to optimize those outcomes. Nonetheless, in order to reach that goal, compromises have to be made.

Collaboration is also about giving and taking, which was found to be easier in a smaller hospital, like the one investigated here. This is because people know each other and individual interests play a smaller part in the decision making process. It can be harder and take more time to compromise many different interests. Therefore, within a smaller organization, the decision making process is quicker and can therefore also be more efficient.

Even though managers, specialists and other employees have optimizing the care for

patients as a common goal, their individual goals can sometimes be contradictory. Wishes from professionals to optimize the care for their patient population cannot always be granted by managers, because they can only allocate a certain amount of financial resources. So, even though managers would want to collaborate, they cannot always do so.

All these factors suggest that collaboration is not something static, but consist of processes in which parties sometimes do collaborate and sometimes they do not. This means that temporal embeddedness, the past and the future of these relations (e.g. Koster & Sanders, 2007), matters. Besides that collaboration between certain parties for innovation and exploitation only takes place when they are involved in the process. Communication turned out to be a core aspect of collaboration. This is not just about open and transparent communication, but also about communicating in general; from discussing ideas with colleagues for creating support to discussing tasks with other departments or health organizations. One expert in the field of Value Based Healthcare told the following:

"What you often can see is that there is a lot of inefficiency… double procedures are executed. So double ECG's, double blood samples that are not connected…these are all quite expensive procedures, so it would be better if they are connected in a way." (Value Based Healthcare professional 5)

This respondent explains that it is valuable to collaborate because it could save costs and lead to more efficiency. The project of Value Based Healthcare can create opportunities for innovation and exploitation when different specialists collaborate. Managers and coordinators of different departments have a history of collaborative relations. They exchange staff when one department is overstaffed and the other is understaffed, for example. This can have a positive influence on exploitation of the processes and efficiency, as they are more flexible to

changing demands of patients and support each other. In this way they can optimize the care for the patients in their departments. When collaboration is absent and innovations or exploitations are still going to be implemented, resistance might arise. Then it does not lead to more efficiency, as this manager explains:

"…they sit next to one another physically, but they won't do anything for each other. When the phone of the other rings, they won't pick up…" (Manager 2)

Managing ambidexterity

Answers of the respondents were quite unanimously regarding to what is needed from the management of the hospital to create ambidexterity and collaboration. The answer is that the management of this hospital is itself ambidextrous. This kind of dual management has been arranged in such a way that the specialist is more focused on innovation and the manager on exploitation. How this works is explained below. First, we zoom in on actions management can take for collaboration and their roles will be explained. Subsequently, the mechanisms through which collaboration and ambidexterity can be accomplished will be explained, including that of dual management. Thereafter, a final model explaining the relationship between management, collaboration and ambidexterity is presented.

Performing different roles

Respondents agreed about the roles they assigned to managers to instill collaboration. As the knowledge of managers is broader in the field of policy making and because professionals usually do not have the time to execute those tasks, managers should facilitate and support professionals in that field. Professionals also become or stay motivated to collaborate in innovations and exploitations of processes when they receive support from mangers.

Therefore it is crucial to managers to think along and be constructive, as this professional indicates:

"…, but it can also work demotivating as there is always the same person who says no, or is to critical or sends you away with: "Improve your business plan."" (Professional 1)

In order to involve the different parties and coordinate implementations, managers should be able to execute different feedback styles. These different roles are mostly explained as being able to respond to different types of people and being able to motivate the different types of people. For that reason, it is necessary to know about the culture within teams and the norms and values each individual carries. In this way, a manager can keep people involved and motivated to contribute to the shared goals. Sometimes, a more directive style is needed to get things done from people, but in other cases it is better to compromise with people in order to keep them involved. These answers can be understood from the assertion that collaboration can be reached through behavioral complexity (Carmeli & Halevi, 2009). When managers are able to execute these different roles, resistance to change might also be avoided. This manager explains that when managers are not this flexible in their roles, such resistance might arise:

"Yes, that could lead to resistance by some. Some specialist will say to managers: Yes, but he does that always in this way, or that does not help as he always wants to discuss it first and that is also about personal preference by specialists, because one specialist is more pragmatic than the other…" (Manager 2).

This manager describes that the preference for management styles varies between professionals. This is an example in which a professional does not feel motivated to do

something as he experiences a lack of support by a manager. Therefore, it seems that through a lack of behavioral complexity, people can become less motivated to put effort in their work or become less participative in developing ideas. While respondents describe that behavioral complexity from managers is essential, they also told that each of the managers do have their own management styles. Some of these managers lack the required level of behavioral complexity. This may also explain why sometimes people become resistant in the collaboration with managers. Managers applying behavior complexity evoke different mechanisms that lead to collaboration.

Mechanisms through which collaboration could be accomplished

Ghoshal and Bartlett (1994) suggest that discipline, stretch, trust and support are the main mechanisms that lead to cooperation, collective learning and ambidexterity. Within the Value Based Healthcare project, the goal is to set patient related outcomes and to optimize these outcomes. This means that a common goal is created in which every member wants the best care for a patient. Accordingly, the discussion will be less about individual interests and more about what each individual can do to optimize those outcomes. Besides that, it is also important to engage all the different parties that are involved with the patient with the specific medical condition in order to discuss how the care can be organized best in order to optimize the patient outcomes. Therefore, the involved parties will also know their responsibilities and how they can contribute to that common goal.

This can be explained through the dimension of discipline, as it is also related to influencing behavioral outcomes of members of the organization through control mechanisms (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). The control mechanisms that are at work here are the patient related outcomes and the involvement of the people who can contribute to those outcomes. In this way they can discuss and find out how they can

contribute to that common set goal. Moreover, the goal of the Value Based Healthcare project is not only to look at the patient outcomes and to improve those outcomes, but also to compare the outcomes of the specialists with each other. In this way, they can learn from one another in order to optimize those individual outcomes. Through this collective learning, ambidexterity is possible.

This form of individual and collective learning can be explained the dimension of stretch, which is about stretching targets and how an environment is created in which individuals voluntarily stretch their own standards and expectations (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). When people within the organization openly share they ideas and knowledge, others can learn from it. The orthopaedics of the hospital organize science nights two times a year. During these science nights they present the results of their research as well as new guidelines and protocols and how they can be used by them within the hospital. Thereby, when people are open to feedback and have an open communication they can learn from each other. A strong base of trust is therefore needed.

Dual management

Trust is believed to contribute to the spirit of mutual cooperation (Ghoshal & Bartlett, 1994; Adler & Heckscher, 2013). Three contributing factors were found analyzing the data: the perceived fairness and equity in decision processes of the company based on objective data instead of individual deals, involvement of people in decisions that affect their work and having professionals in the lead instead of generalists. Having professionals in the lead could improve trust in one's capabilities and skills as well, which could stimulate collaborative trust. Within the Value Based Healthcare project all parties that are concentrated around a patient with a specific medical condition are involved. Together, they decide the patient relevant outcomes and how they are going to improve these outcomes. As a result, the decision making

process is more based on objective data. This can contribute to the perceived fairness and equity in the decision process.

In order to optimize collaboration, dual leadership is arranged in the hospital. This means that next to every manager there is also a medical manager. This is not only the case because two companies are present within the hospital, but also to integrate medical knowledge and policy oriented knowledge. Another reason for having this structure is because specialists can create a lot of support among their colleagues, because of their medical knowledge. This is also a great success factor for an innovation or exploitation. If the professionals do not support the idea, employees will stop working accordingly at a certain point and the implementation will fail. This could be explained by the research of Ghoshal and Bartlett (1994). They found that having professionals in the lead could improve trust in one's capabilities and skills and that it could lead to collaborative trust. Therefore it is necessary for managers and specialists to collaborate closely.

However, more factors seemed to play a role in trusting managers and to become benevolent in collaboration. Respondents mentioned that trust can be built by open communication and feedback and knowing in what relationship people stand to one another. Moreover, trust and benevolence also seems to be based on trust in the knowledge of a manager. This is also about trust in one's skills and competences as explained by Ghoshal and Bartlett (1994).

It was also found essential for managers to be present on the work floor. In this way, the manager knows more about is going on there. This could create trust from the employees in the knowledge of the manager and trust in that the manager can respond well to what is needed on the work floor. This is also related to behavioral complexity. By being present on the work floor, a manager is more approachable, which makes it easier to have open communication. This can also contribute to knowing one another. People are more motivated

to do something for someone when they really know the person. Moreover, they are more aware of the intentions of the other party (Koster & Sanders, 2007). Therefore they might know better whether the other person is pursuing the same goals and, is being open about it and is not holding back information. It was found that in this way, constructive discussions can be held in order to come to good solutions for innovations and ideas for exploitation. This can also be explained by the concept of collaborative trust. Through being approachable, having open conversations and knowing one another, people are more open to collaboration, as explained by Adler and Heckscher (2009).

Dual management can be hard sometimes as the focus and responsibilities of managers and professionals are different to some extent. In some cases, this was found to be an obstacle for the innovation and exploitation process. Nonetheless, specialists told that they need managers for coordination, support, policy preparation and execution of the plans, as specialists are less educated in policy making and execution. Moreover, managers carry the responsibility for the organizational budget and therefore have the task for dividing resources among departments. Accordingly, they are the ones from whom support is needed for implementing innovations or exploitations. Professionals mentioned that not getting the resources for some ideas that they wanted to implement, has led to the failure of implementing them. This relates to the dimension of support by Ghoshal and Bartlett (1994). It was found that managers can create collaboration by providing access to resources, mobilize employees in order to reach their goals and give them more autonomy for taking initiatives.

Final model

Figure 1 summarizes the key features that were mentioned within the theoretical framework and is extended by the empirical outcomes. The model starts with behavioral complexity of

managers in which managers are able to perform different roles. Through these different roles, managers are able to perform several managerial actions. These managerial actions trigger collaboration that can lead to innovation and exploitation, thus ambidexterity, through the dimensions of discipline, stretch, trust and support. The processes of ambidexterity, in which innovating and exploiting are executed consecutively, ask for certain types of managerial actions. For example, when an innovation has to be exploited, managers can coordinate this through the dimension of discipline. It was also found that in some cases, professionals are somewhat more self-steering in innovating and exploiting processes and do not involve managers so much. In some cases, support from managers is not necessarily needed. Therefore, innovations and exploitations can also be accomplished through collaboration.

[Figure 1 about here]

Conclusion and discussion

Main outcomes

The answers of the research respondents show how behavioral complexity of managers and as a result the managerial actions can influence collaboration and ambidexterity through the discipline, stretch, trust and support. Therefore it is crucial for managers to be able to play multiple roles that sometimes call for diverse and competing behavior and to be able to give responses that fit the situation and the needs of employees. To a certain extent, this relationship was expected based on current literature. What this study in addition emphasizes is that ambidexterity and collaboration are dynamic rather than static. Moreover, this dynamic nature of ambidexterity and collaboration is not so much a development towards more or less, but (also) means that different kinds of it evolve over time. Ambidexterity does not

necessarily mean innovating and exploiting at the same time, it can also mean zigzagging from innovating to exploitation and back. With regard to collaboration, the research shows that managers can instill this through discipline, stretch, trust and support. Again, this is not a static state, but it is due to the manager's ability to switch between managerial activities to evoke these different mechanisms when they are required (by the organization, the professionals or the employees). Hence, managerial complexity is an important key to understand how collaboration can contribute to organizational ambidexterity.

The process of going from innovation to exploration and back could also stimulate collaboration as well. Professionals try to exploit their processes and search for innovations that could help them for optimizing their day-to-day processes. Once an innovation has been found, this innovation has to be exploited, because focusing on too many things simultaneously could lead to a lower quality of outcomes. This part may be taken over by managers as they may be more geared towards exploitation As a result, the relation between professionals and managers may strengthen in the process of moving between innovation and exploitation since they become more interdependent. Hence, they need to balance their efforts, communicate about each other's actions, and so forth, to achieve the required organizational outcomes. Dual management contributes to this process as it means that professionals are in the lead together with managers and they collaborate closely from their own expertise to organize ambidexterity. This feedback process works touched upon in this study, but needs further exploration in additional studies.

Scientific and practical implications

Overall, this study generated some new insights that can contribute to scientific debates and that has practical implications. With regard to the scientific contributions, it was discussed that large part of what is written about ambidexterity, collaboration and the role of

management was indeed applicable to the hospital that we investigated. What was added to prior studies is the notion of how ambidexterity and collaboration evolve. In addition to that, it became clear that ambidexterity requires collaboration. Without collaboration, it would become almost impossible to implement innovations and then exploit their outcomes since all parties involved are strongly interdependent. The study shows that manager influence the process of collaboration through openness and approachability besides having a common goal. Having professionals in the lead together with managers and having short communication lines could be crucial in this. This is advisable for other hospitals as well. Besides that not having too many management layers could also contribute to collaboration and therefore ambidexterity. Moreover, this study has opened up the relationship between management, collaboration and ambidexterity.

For organizations and managers the lessons from this study are that situational leadership, responding to the needs of both the organization and organizational actors, is crucial if the goal is to be ambidextrous. Furthermore, having separate units for innovation and exploration will not be enough to create organizational ambidexterity. Constant attention for the tensions and hurdles that may result from aligning innovation and exploration is necessary. Here we also touch upon on of the main problems related to collaboration, namely that the parties need to understand each other. In a hospital setting this may be easier than in situations where people from completely different backgrounds need to cooperate. Here the role of management is even more present than we found in this particular setting.

Limitations

While this study finds evidence for processes of ambidexterity and collaboration, the data gathering took place during a limited timeframe. To fully grasp the developmental nature of these processes, a longitudinal research design would be ideal. In than sense, we have to

regard this study as an exploration of these processes, offering a basis for additional research. Such research could be held in a similar type of organization, but having insights in other organizations would be of great value in understanding how these processes work and if the depend on the context in which they take place.

It should therefore be noted that the lack of external validity hinders the possibilities of generalizing the results to other types of organizations. It is simply not possible to apply these outcomes without considering the particularities of this hospital. It is for example uncertain whether the results of this study are applicable to larger organizations, especially as respondents mentioned that the success of their close collaboration is for a great part due to the short communication lines and knowing and trusting the people they have to collaborate with. Within larger hospitals, the communication lines are longer and it is harder to know all the people that professionals have to collaborate with, according to them. On the other hand, within larger and especially academic and training hospitals, there is more time and money available for innovation. Nevertheless, the results might differ and therefore the external validity might be threatened. For follow-up studies it would therefore be interesting to analyses how far the size of the organization and the structure of the organization could cause differences in the collaboration within teams as well as the relationship with the management. Furthermore, additional research should find out what the effects are of having professionals in the lead on collaboration and ambidexterity.

While being informative, it should also be noted that this qualitative study remains descriptive in a certain sense. It is a good means of developing hypotheses. The model that we proposed offers these hypotheses. Using a mixture of additional research methods will be needed to test the model. This means that surveys can be applied, preferably measuring how collaboration and ambidexterity evolve over time, potentially measuring feedback loops during the process. Besides that, experimental research will help to test the underlying

theoretical mechanisms. Finally, more innovative research methods may be considered, particularly with regard to measuring processes. For example, it may be worthwhile to have respondents record developments through mobile devices.

Taken together, this study shows how managers can steer their organizations towards ambidexterity. Clearly, they need to make sure that employees are willing to cooperate with each other to combine innovation and exploitation. Furthermore, these activities do not always have to be performed by everyone all of the time. And, lastly, managers have different mechanisms (discipline, stretch, trust and support) at their disposal to facilitate collaboration and through that create and ambidextrous organization.

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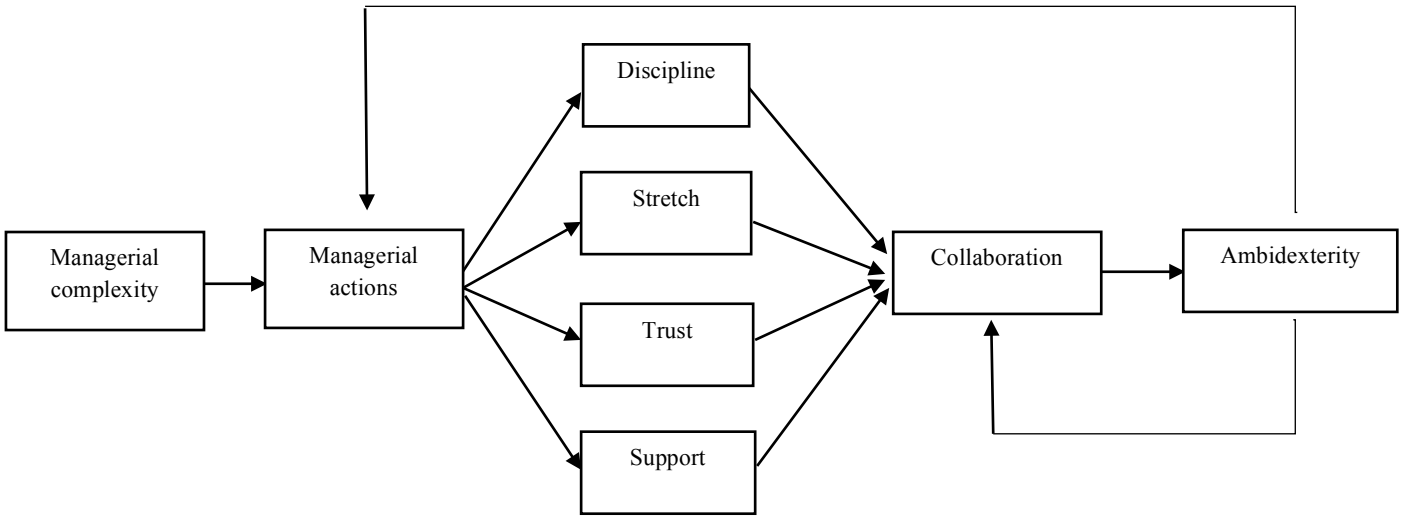
Figures

Figure 1. Final model



Tables

Table 1. Respondents

Respondent	**Description**
Professional 1	This cardiologist was interviewed on the 10th of May 2017 has 10 years of experience in his field and has had some experience as physician assistant in an academic setting.
Professional 2	Cardiologist 2 was interviewed on the 11th of May 2017. He has been a cardiologist in the St. Anna hospital for seven years already. Before he came to the St. Anna hospital, he studied in the academic hospital of Maastricht.
Professional 3	Professional 3 is a coordinating nurse who has been interviewed on the 15th of May 2017. He has been work as a nurse in the St. Anna hospital since 2001. Before that, he worked in another hospital nearby.
Professional 4	This is a scientist who supports the orthopaedic department and is a project leader for the Value Based Healthcare project. He has been interviewed on the 23rd of May 2017 and has been working for the hospital for 23 years. He has a background in kinesiology and physiotherapy.
Professional 5	This cardiologist was interviewed on the 23rd of May 2017 has worked in the St. Anna hospital for 9 years. In the year before he worked in an academic hospital in Maastricht. At this moment, he is also the leading specialist in the Value Based Healthcare pathway for the cardiology department.
Professional 6	This Cardiologist, member of the steering group of the Value Based Healthcare project and chairman of the MSB was interviewed on the 24th of May 2017. He has been a cardiologist in the St. Anna Hospital for 10 years, member of the steering group for almost three years and chairman for five years. On beforehand he has worked as a cardiologist in an academic hospital in Rotterdam.
Manager 1	This department head for outpatient clinics was interviewed on the 15th of May 2017. She has five years of experience as a department head after she had been working as a consultant.
Manager 2	This manager was interviewed on the 24th of May 2017, is a department head for outpatient clinics and has six years of experience as a department head. He has a background in consultancy. Moreover, he is one of the project leaders of the Value Based Healthcare

	project.
VBHC Professional 1	This person was interviewed the 9th of May 2017 is a trainee in the St. Anna hospital and she has the task to make a value based care pathway for the dermatology department. She has a background in health sciences and this is her first job after graduating. Just as every other trainee, she has been working in the St. Anna hospital for six months.
VBHC Professional 2	This trainee with a health science background was interviewed on the 10th of May 2017. It is her task to organize the Value Based Healthcare pathway for patients with COPD. Before she started the traineeship, she has had some experience with improving processes in other hospitals.
VBHC Professional 3	This trainee was interviewed the 10th of May 2017. His task within the St. Anna hospital is to create a Value Based Healthcare pathway for the orthopaedic department. He has some experience from earlier internships with improving processes and this is his first job after graduating in health sciences.
VBHC Professional 4	This trainee with health science background has the task in the St. Anna hospital to create a Value Based Healthcare pathway for debris within the surgery department. This is his first job after graduation. He has written his thesis about optimizing processes through the methodology of LEAN. He was interviewed on the 15th of May 2017.
VBHC Professional 5	This project leader of a regional Value Based Healthcare network for cardiology was interviewed on 22nd of May 2017. He is the project leader since the 1st of April 2016. He has some experience in leading projects before and has a background in kinesiology.