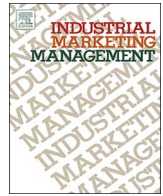




Contents lists available at ScienceDirect

Industrial Marketing Management

journal homepage: www.elsevier.com/locate/indmarman

Target and position article

Power in a startup's relationships with its established partners: Interactions between structural and behavioural power

Tamara Oukes*, Ariane von Raesfeld, Aard Groen, on behalf of the PCDIAB Consortium

Center for Entrepreneurship, Strategy, and Innovation Management (NIKOS); Faculty of Behavioural, Management and Social sciences (BMS); University of Twente; P.O. Box 217, 7500 AE Enschede, The Netherlands

ARTICLE INFO

Keywords:

Startup
Structural, behavioural, perceived and realised power
Established organisations

ABSTRACT

Power plays a key role in the relationships between startups and established organisations. Yet researchers have devoted little attention to the startup's perspective on power in such relationships. To study startups' view on power, a useful starting point is their structural power, but this also requires an investigation of their power behaviour. We explore how structural and behavioural power interrelate in a startup's relationships with its established partners in the medical device business. Our longitudinal, embedded case study reveals nine interaction episodes in which power plays a decisive role. The power episodes show that the case startup often uses hostile power use tactics because it overestimates its structural power. Since its established partners recognise its lack of power, they usually do not accept such behaviour. Thus, the case startup could not extract the intended benefits. Nonetheless, we find that the case startup could benefit from its relationships if it employs conciliatory power use tactics or power change tactics. With these insights, we contribute to the startup business relationship literature by providing a better understanding of startups' experience with power. We also extend the power literature by showing that it is the perception of power that determines power behaviour rather than the de facto structural potential.

1. Introduction

When startups are founded, they are usually exposed to liabilities of smallness and newness: they lack the resources (e.g. financial, human, social and/or marketing capital) and have not yet established the business relationships (e.g. with suppliers and customers) necessary to successfully exploit opportunities for new products and services (Aaboen, Holmen, & Pedersen, 2017; Bruderl & Schussler, 1990; Laage-Hellman, Landqvist, & Lind, 2017). These liabilities can be compensated for by interacting with other organisations (Das & He, 2006; Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009). Research has shown that especially relationships with established organisations are a major source of financial and non-financial resources (Baum, Calabrese, & Silverman, 2000; Deeds & Hill, 1996). They can also provide startups with the legitimacy and endorsement they need to survive (Bengtsson & Johansson, 2012; Stuart, 2000). However, startups and established organisations do usually not have compatible goals, shared benefits and mutual interdependence (Chicksand, 2015). Thus, their interactions are usually characterised by disagreements about what to do and how to do it. To coordinate their relationship, they need to negotiate and use their power, because there is a lack of formal hierarchy (Achrol, 1997;

Pfeffer, 2009; Whetten, 1981). Thus, power is an important characteristic of interactions between startups and established organisations, and an unavoidable mechanism to decide on an appropriate course of action (Achrol, 1997).

However, few studies have investigated startups' views on and experience with power in relationships with established organisations. Researchers have directed considerable attention to power's roles in buyer-supplier relationships. For instance, they have researched how power-advantaged partners use their power to influence less powerful partners (for an overview, see Habib, Bastl, & Pilbeam, 2015; Johnsen & Lacoste, 2016). However, in its early stages, a startup will not always have customers or suppliers yet (Aaboen, Dubois, & Lind, 2011; La Rocca, Ford, & Snehota, 2013). Accordingly, they will also develop their initial business idea by interacting with universities, research institutes, governmental institutes, non-profit organisations and the like (Zeng, Xie, & Tam, 2010). Previous research, such as work by Herlin and Pazirandeh (2012) and Tang, Tang, and Katz (2014), indicates that power also shapes the interactions with these types of established organisations. However, these studies have focused on established non-profit organisations and small and medium-sized enterprises (SMEs) which, unlike startups, are not (as strongly) confronted by liabilities of

* Corresponding author.

E-mail addresses: t.oukes@utwente.nl (T. Oukes), a.m.vonraesfeldmeijer@utwente.nl (A. von Raesfeld), a.j.groen@utwente.nl (A. Groen).<https://doi.org/10.1016/j.indmarman.2017.12.007>

Received 27 November 2015; Received in revised form 11 July 2017; Accepted 7 December 2017

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newness (Bruderl & Schussler, 1990). Also, research into startups' business relationships has either ignored power altogether or has treated it in less depth. It has primarily focused on other topics, such as resource complementarity (Rothaermel & Boeker, 2008), initial customer relationships (Aaboen et al., 2011; La Rocca et al., 2013), partner selection (Das & He, 2006; Diestre & Rajagopalan, 2012), capabilities (Chen, Zou, & Wang, 2009; Vandaie & Zaheer, 2014) and network composition (Baum et al., 2000; Hoehn-Weiss & Karim, 2014).

To create an understanding of power, researchers have typically used either a structural or a behavioural perspective (Meehan & Wright, 2012; Olsen, Prenkert, Hoholm, & Harrison, 2014). The structural perspective understands power as the underlying potential to influence future outcomes (Provan, 1980), while the behavioural perspective interprets power as the exercise of this structural potential (Molm, 2009). On the one hand, studies from a structural perspective have shown that startups are usually in a power-disadvantaged position vis-à-vis their established partners owing to their liabilities of newness and smallness (Gardet & Fraiha, 2012). Thus, the relationship's benefits are often skewed towards the established organisation (Alvarez & Barney, 2001). On the other hand, studies from a behavioural perspective have shown that power-disadvantaged organisations are not locked into a power position (Cowan, Paswan, & Van Steenburg, 2015). They can undertake power change tactics (Kim, Pinkley, & Fragale, 2005) to impose their will on a powerful partner and can mediate against a powerful partner's power (Johnsen & Lacoste, 2016). For instance, Tang et al. (2014) have taken a behavioural perspective to show that proactiveness can decrease a SME's power differences with the media and government. Structural and behavioural power must be understood as simultaneous, complementary processes because “*structure arises from the actions of people and these actions are shaped by structure*” (Brass & Burkhardt, 1993, p. 443). Nonetheless, Olsen et al. (2014) have shown that few studies have combined the two approaches (see also Huxham & Beech, 2009; Meehan & Wright, 2012). A few exceptions – such as Lai (2009) as well as Plouffe, Bolander, Cote, and Hochstein (2016) – have simultaneously applied the two approaches to study power in buyer-supplier relationships, but did not investigate the unique context of startups' interactions with established organisations.

There is a need to create a better understanding of power in the interactions between startups and established organisations from a startup's perspective. Moreover, research must go beyond studies with a single power approach towards investigations of both structural and behavioural power in such interactions. We address these needs by investigating the following research question: *How do structural and behavioural power interact in a startup's relationships with its established partners?* To answer this question, we conduct a longitudinal case study on a startup with R&D relationships with seven powerful established organisations – a teaching hospital, a health foundation, a market leader, a research institute, a software company, an industry player and a glucagon provider – to develop a new medical device for the treatment of diabetes. The primary focus is on power's roles in the case startup's interactions with its established partners from the startup's perspective. Yet power is a relational concept (Huxham & Beech, 2009), i.e. a startup's structural and behavioural power cannot be fully explained without considering those of its partners (Meehan & Wright, 2012; Oukes & Raesfeld, 2016; Rutherford & Holmes, 2008). For this reason, we take an interactive approach to study power's roles in this startup's interactions with its established partners.

We seek to contribute to the startup business relationship and power literatures. First, we extend the startup business relationship literature by studying power's under-examined roles in the interactions between a startup and its established partners. Second, we contribute to the power literature by investigating power in these interactions from a structural and a behavioural perspective simultaneously rather than by applying a single approach. We also seek to provide support to startup managers. Through a better understanding of power's roles in their interactions with established partners, startup managers will be better able to

understand a partner's perspective (Barbuto & Gifford, 2009). Further, they will have a more transparent vision of their own and their partner's current and future power (Lacoste & Johnsen, 2015; Lee & Johnsen, 2012). In turn, they are better equipped to enact desired changes, set development properties, manage problems and make decisions that will impact on how they are perceived and valued (Barbuto & Gifford, 2009; Lee & Johnsen, 2012).

This paper proceeds with the state-of-the-art literature regarding the structural and behavioural approaches to power and the relationships between them. In the methodology, we briefly describe our research design. This is followed by a detailed description of nine power episodes between the case startup and its established partners. Drawing on this description, we summarise the interactions between the case startup's structural and behavioural power and its established partners. We conclude with an analysis of our findings, theoretical contributions, managerial implications, our study's limitations and suggestions for further research.

2. Theoretical framework

There are two approaches to understanding power (Brass & Burkhardt, 1993; Huxham & Beech, 2009; Olsen et al., 2014; Pfeffer, 2009). The first approach focuses on structural capacity (Pfeffer, 2009) and reflects the properties of a social system (Brass & Burkhardt, 1993). It provides a structural perspective on power, since it refers to the larger organisational context in which the day-to-day operations of an inter-organisational relationship take place (Brass & Burkhardt, 1993; Huxham & Beech, 2009). The second approach to power derives from an organisation's particular actions within a structural context (Brass & Burkhardt, 1993; Pfeffer, 2009). It offers a behavioural perspective on power, because it focuses on the day-to-day enactment of power between organisations (Huxham & Beech, 2009). The structure-behaviour split also exemplifies the distinction between *potential power* and *power use* (Brass & Burkhardt, 1993) and the *macro-level* and *micro-level* perspectives on power (Huxham & Beech, 2009). We will now explain the structural and behavioural perspectives on power and will then relate the two perspectives based on Kim et al.'s (2005) framework.

2.1. Structural power: resource control, network position and formal position

Although various structural sources of power at different levels have been identified (Huxham & Beech, 2009), they can be categorised into three types. The first type includes work that argues that power derives from control over resources (Pfeffer, 2009) needed by another (Pfeffer & Salancik, 1978). These organisations that control the supply of critical resources that are not controlled or mediated by others acquire power, since they increase others' dependence on them (Astley & Sachdeva, 1984; Brass & Burkhardt, 1993). For instance, Forshey (2014) shows that the initial bargaining position of a startup and an established organisation are based on the control over resources desired by the other. Startups with more valuable resources receive a greater financial contribution from their established partner. Yet when established organisations control more valuable complementary resources, such as manufacturing capabilities and commercialisation experience, they decrease their financial contribution to the partnership beyond a fair market exchange. In turn, this limits startups' ability to profit from the innovations they create (Forshey, 2014).

A second form of structural power derives from an organisation's position in its network (Astley & Sachdeva, 1984; Huxham & Beech, 2009; Pfeffer, 2009). To survive, grow and prosper, startups need to initiate business relationships (Bliemel & Maine, 2008). Startups are more likely to form relationships with well-positioned organisations owing to their access to potential partners (Ahuja, Polidoro Jr., & Mitchell, 2009) and relevant resources (Brass & Burkhardt, 1993). For instance, Oukes and Raesfeld (2016) show that a medical startup was

almost exclusively reliant on two well-positioned established organisations to develop its relationship portfolio. Thus, established organisations that are central to a network (i.e. with many direct relationships with other organisations) are in a strong position to influence startups (Huxham & Beech, 2009; Pfeffer, 2009). Especially organisations that occupy a bridging position between two or more unconnected or weakly connected organisations acquire power, since they provide value or benefits by accessing information or social ties that other organisations cannot (Burt, 1992; Pfeffer, 2009). Indeed, Olsen et al. (2014) have found that retailers with a gatekeeper function are able to encourage, direct and force suppliers to restructure their activities for their own benefit.

A third structural source of power is the influence that derives from occupying a formal position. An official position comes with hierarchical authority rights: the right to make decisions and to allocate tasks and resources (Astley & Sachdeva, 1984; Pfeffer, 2009). Inter-organisational relationships are usually considered to lack traditional hierarchy. Yet there may be situations in which an organisation is given formal authority over other organisations in a collaboration via legislative mandate or prior agreement (Provan, 1980). This may especially be the case in government-sponsored multipartner partnerships in which an official lead organisation must be specified (Kassler & Goldsberry, 2005). Conversely, partners may voluntarily appoint decision rights and authority to a lead organisation to allow for effective decision-making in a multipartner setting (Albers, Schweiger, & Gibb, 2015). The organisation with formal authority can dominate decisions about which organisations to involve and how joint objectives are formed and carried out (Huxham & Beech, 2009). Thorgren, Wincen, and Boter (2012) have shown that especially startups are more likely to comply with group norms determined by a lead organisation in a multipartner partnership than large organisations. They typically have less power vis-à-vis other participants, since they are highly dependent on participation in a multipartner partnership. Thus, a startup risks losing its access to a partner's resources if it violates group norms. Further, breaking such norms may signal a lack of social competence, allowing distrust to develop (Thorgren et al., 2012).

2.2. Behavioural power: power change and power use tactics

Behavioural power studies investigate the power tactics an organisation employs to influence its partner (Brass & Burkhardt, 1993; Kim et al., 2005). In specific, *power use tactics* concern the ways in which organisations may attempt to leverage structural power sources, while *power change tactics* concern the ways in which they attempt to alter a power relationship (Kim et al., 2005).

2.2.1. Power change tactics

Organisations sometimes perceive that they possess insufficient structural power to obtain desired outcomes. As can be concluded from the discussion above, startups often have less structural power than their established partner. When one organisation primarily holds the power, its partner may attempt to improve its own power to acquire a greater share of the total exchange value (Bazyar, Teimoury, Fesharaki, Moini, & Mohammadi, 2013; Ford, Wang, & Vestal, 2012; Kim et al., 2005; Lacoste & Johnsen, 2015). Kim et al. (2005) argue that there are four basic power change tactics – also known as power-balancing process (Hallen, Katila, & Rosenberger, 2014; Molm, 2009) and counter-vailing power (Lacoste & Johnsen, 2015). Organisations can alter a power relationship by 1) improving the quality of their alternatives, 2) decreasing the quality of a partner's alternatives, 3) decreasing the valuation of a partner's contribution, and 4) increasing a partner's valuation of their own contribution. The weaker organisation therefore seeks to reduce the power asymmetry by either increasing the importance of its own contribution to the stronger actor, or decreasing the importance of the stronger organisation's contribution for itself (Habib et al., 2015).

2.2.2. Power use tactics

Once an organisation perceives that it has sufficient structural power, it is inclined to exercise power use tactics – also known as influence strategies (Lai, 2009) – to obtain desired benefits (Kim et al., 2005). However, an organisation can also act as if it has power since its partners usually do not operate with complete information (Brass & Burkhardt, 1993). Therefore, startups may also create the impression that they have power by applying power use tactics. There are two major research traditions in the study of power use tactics: the business-to-business (B2B) marketing and channels literature and the management and industrial/organisational psychology literature. A review of both literatures identifies 11 unique power use tactics: consultation, collaboration, personal appeal, inspirational appeal, apprising, integration, exchange, coalition, legitimation and pressure (Plouffe et al., 2016). However, Kim et al. (2005) conclude that an overwhelming number of tactics is not helpful as an organising framework for a theoretical analysis. Instead, they propose using the broad distinction between conciliatory and hostile power use tactics (Lawler, 1992). Conciliatory tactics involve *positive* acts, such as coordination or collaboration, to extract benefits in ways that reduce a partner's damage. Hostile tactics refer to *negative* acts, such as competition, intimidation and resistance, to extract benefits in ways that increase the harm to a partner (Kim et al., 2005).

2.3. The interaction between structural and behavioural power

The structural and behavioural perspectives on power can be viewed and are usually treated as alternative explanations (Brass & Burkhardt, 1993). However, power is not only potential in that it derives from structures, but also actual in that it only exists when used. All the structural power available to an organisation is seldom exercised in all circumstances (Provan, 1980). Its exercise depends on an organisation's structural power and the structural power and power behaviour of those with which it interacts (Oukes & Raesfeld, 2016; Rutherford & Holmes, 2008). For instance, an organisation can have structural power owing to its possession of and access to resources, but whether it enacts that power depends on its partner's power and behaviour. Thus, structural power can be possessed, but its exercise is spatially and temporally contingent (Rutherford & Holmes, 2008). Owing to this two-sided interaction between structural and behavioural power over time, power is inherently dynamic.

Kim et al. (2005) offer a two-sided dynamic framework to explain how structural power relates to behavioural power. The framework was designed to explain interpersonal power in negotiations within organisations. Interpersonal power within organisations is different from power in inter-organisational relationships. The main difference is the form of power that can be used to coordinate activities: inter-organisational coordination builds on subtle forms of power (i.e. resource control and networks centrality), while it also occurs through an overarching formal authority structure within organisations (Achrol, 1997; Whetten, 1981). However, inter-organisational relationships are embedded in networks of personal relationships (Granovetter, 1985): individuals represent the organisation and negotiate on its behalf (Wilkinson, 1996). For this reason, they are also subject to elements of interpersonal relationships (Whetten, 1981), such as social, friendship and reputation influences (Achrol, 1997; Meehan & Wright, 2012). Especially, Larson (1992) shows that personal relationships play an important role in the initiation, coordination and control of startups' business relationships. Thus, interpersonal power frameworks are shown to be powerful in explaining power at the inter-organisational level (e.g. Davenport & Leitch, 2005; Ford et al., 2012). In addition, Herbst, Schwartz, and Voeth (2008) have shown that the differences in negotiation characteristics (e.g. the parties, interests, processes and outcomes) between intra-organisational and inter-organisational negotiations are limited. Thus, we propose that Kim et al.'s (2005) framework is also applicable to study power in interaction between startups

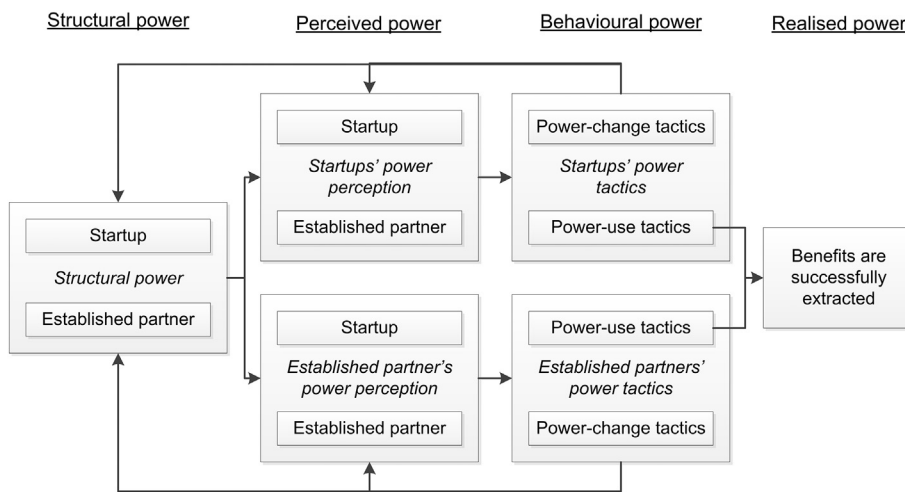


Fig. 1. A framework of power in relationships between startups and established partners (adapted from Kim et al., 2005).

and established organisations. Accordingly, we describe it here from an inter-organisational perspective. The framework relates structural to behavioural power through linking it to perceived power and realised power. Since we explained structural and behavioural power in Sections 2.1 and 2.2, we will now focus on perceived power, realised power and the underlying relationships.

2.3.1. Perceived power

Perceived power is defined as an organisation's assessments of its own structural power and its partner's structural power (Kim et al., 2005; Wolfe & McGinn, 2005). Perceived power is an important concept if one is to understand the relationship between structural and behavioural power (Huxham & Beech, 2009). Nonetheless, the concept has received limited attention in the inter-organisational power literature, because it generally does not question the objectivity of respondent-reported power (Huxham & Beech, 2009; Meehan & Wright, 2012). Yet these respondent-reported interpretations of power are more consistent with perceived power than with structural power (Meehan & Wright, 2012). Previous research has shown that organisations' perceptions of their power do not correspond well to their structural power, i.e. their perceived power may diverge from their actual potential (Kim et al., 2005; Wilkinson, 1996; Wolfe & McGinn, 2005). Since there is an absence of perfect information and there is bounded rationality (Kim et al., 2005), organisations cannot be aware of everything that goes on their own and their partners' organisations. They fill in these blanks based on witnessed power behaviour and other information sources. In turn, it is likely that their power perceptions are distorted (Pinkley, 1995; Provan, 1980; Wolfe & McGinn, 2005). Further, the power perceptions of two or more partners in a relationship are likely misaligned (Huxham & Beech, 2009). Thus, an organisation tends to form an imperfect perception of its own and the other's structural power. In turn, this imperfect power perception determines the way organisations change and use their power. In other words, it is the perception of power, rather than the actual structural potential, that drives power behaviour (Huxham & Beech, 2009; Molm, 2009; Wilkinson, 1996; Wolfe & McGinn, 2005).

2.3.2. Realised power

Realised power refers to the extent to which organisations extract benefits from a relationship through their power behaviour. The implementation of power tactics directly influences the extent to which an organisation can realise power (Kim et al., 2005; Wilkinson, 1996). The extent to which it uses power will also affect the accumulation and loss of (perceived) structural power (Huxham & Beech, 2009; Kim et al., 2005; Wilkinson, 1996). The consequences of power use tactics for the relative power of two organisations depend on the type of tactic

employed. Kim et al. (2005) suggest that an organisation will gain power if it uses conciliatory tactics, while it will lose power if it uses hostile tactics. Further, an organisation can build a reputation for being powerful through its power change tactics. If an organisation changes others' power perception, this perception may become a reality and it will gain power by being seen as being powerful (Ford et al., 2012). Thus, power behaviour can determine realised power and may modify the structural and perceived power of two organisations (Brass & Burkhardt, 1993; Kim et al., 2005; Molm, 2009; Wilkinson, 1996).

Our theoretical discussion makes it possible to explain how a startup and its partner's structural and behaviour power interact by linking this to perceived and realised power. A startup and its established partner have a de facto power potential (i.e. structural power) derived from their resource control, network centrality and formal position. Based on this potential, they form an – often inaccurate – perception of their own and their partner's structural power. This perception, rather than their structural power, determines their power behaviour, reflected in the power tactics they employ: power change tactics (i.e. increasing one's own or decreasing one's partner's contribution) or power use tactics (i.e. using conciliatory or hostile tactics). In turn, the behaviour of a startup and its partner affects the extent to which they can derive the intended benefits from their relationship (i.e. realised power). Also, their power behaviour may change their structural and perceived power. These relationships are summarised in Fig. 1.

3. Methodology

We used a case study approach to investigate how structural and behavioural power interact in a startup's relationships with its established partners. We chose a case study approach for three reasons: 1) the choice for a case study was apparent because our study involves a social process (Swanborn, 2013); 2) a case study's inherent flexibility suits the study of complex, evolving relationships and interactions (Beverland & Lindgreen, 2010); and 3) a case study allowed us to understand not just that something happened, but also how and why it happened (Huberman & Miles, 1994).

3.1. Subject of study

The empirical data collection involved an in-depth case study of a startup in the medical device business. The case startup was developing a closed-loop bi-hormonal artificial pancreas, a new medical device for the treatment of diabetes type 1 patients. This breakthrough in diabetes management included the automated administration of insulin and glucagon while the patient's glucose level was continuously monitored. The case startup had a partially developed product and highly specific

expertise with new technologies. However, startups in the medical device industry usually lack the following: sufficient cash to continue product development, technical expertise with the clinical trials process, manufacturing capabilities and commercialisation experience (Forshey, 2014). Consequently, the case startup collaborated with established organisations to overcome such weaknesses. We included all established partners that were crucial to the development of the case startup's artificial pancreas, whether or not they are (potential) customers/suppliers. Specifically, the case startup's five established partners were: 1) a teaching hospital that ran crucial clinical trials on the artificial pancreas, 2) a health foundation that connected the startup with key partners through its large network, 3) a research institute that developed a new sensor type that very accurately measures blood glucose levels, 4) a market leader in the diabetes market that could facilitate the marketing, sale and distribution of the artificial pancreas, and 5) a glucagon supplier that developed stable liquid glucagon, which is essential for the successful commercialisation of the artificial pancreas. Further, the case startup was involved in a Europe-funded project with six other organisations: the teaching hospital, a technical university, a medical university, an established industry player, a clinical research institute and a software company. The project sought to boost the development of the artificial pancreas and to bring it to the market as soon as possible.

3.2. Data collection

We collected the empirical data from the establishment of the case startup in 2008 until May 2016: from 2008 until April 2013, we conducted a retrospective analysis; from April 2013 until May 2016, we followed the case startup in real time. To improve the study's validity (Beverland & Lindgreen, 2010), we combined three data collection methods to investigate the case startup during this period. First, we interviewed nine representatives from the case startup and its more powerful partners. The interviews were semistructured, yet flexible enough to enable interviewees to give examples, go into detail about important situations, and leave room for discussion. We held the interviews with the case startup in June and July 2013 and structured them as follows: 1) how the startup and its artificial pancreas had developed since its establishment; 2) how the startup's network had evolved over time; 3) which of the startup's relationships were perceived as power-asymmetrical and why; 4) how each power asymmetric relationship was initiated and managed. Around the same time, we interviewed seven representatives from the startup's established partners. These interviews centred on how the partner initiated and managed relationships with startups in general and with this startup. In December 2014, we conducted a second set of interviews. The two interviews with the case startup were structured around how, since the previous interview: 1) the startup and its artificial pancreas had developed; 2) the network had evolved; 3) the power asymmetry between the startup and its partners had changed; and 4) each power asymmetrical relationship was initiated (only in the case of a new partner) and managed. Consecutively, we did five interviews with representatives from the startup's established partners, which were structured as follows: 1) how the partner experienced the power asymmetry with the startup and 2) how the way the relationship managed had changed since the previous interview. The representatives from the case startup and its partners were also asked to identify important events in the relationship, how they had behaved during these events, and whether (and, if so, how) power asymmetries played a role in their organisation's decision to act in a certain way.

Second, our lead author carried out observations during her stay at the case startup. Her role in the case startup can be described as a *participant observer*; she made it clear that she was undertaking research, but she also participated fully in the startup. Between April 2013 and May 2016, she was present for about two days a week at the company's site, while during the other three, she worked at the university. She

focused her observations primarily on a limited aspect of the social setting: the case startup's business relationships. In this way, she sought to minimise the risks associated with fully participating in the case startup, but still developed a full appreciation of the case through detailed and long-lived observations. Third, archival documents, such as patents, non-disclosure agreements (NDAs) and project descriptions, were collected from the period between the case startup's establishment in 2008 and May 2016. We primarily used the observations and archival data to improve our understanding of the data collected through the interviews, as well as to design questions for the interviews, which were important for a thorough understanding of the case but were not known when the study was designed (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). The data collection involved confidential issues regarding the case startup and its relationships with its established partners. Thus, it was essential to maintain confidentiality. Accordingly, we anonymised the names of the case startup and its partners.

3.3. Data analysis

We analysed the tape-recorded and transcribed interviews, textual notes of the observations and archival documents with ATLAS.ti. Since this software views a theory as a connected network of links between concepts (Huberman & Miles, 1994), it was suitable for exploring the structural and behavioural power interactions in the relationships between the case startup and its established partners. We analysed the empirical data in three consecutive steps. In step 1, the analysis focused on drawing up a history of the case startup and its evolving network to create an understanding of the context of the phenomena in question. In step 2, we coded the data to identify and categorise: 1) the structural power of the case startup and its partners, 2) their perceptions of their own and the other's structural power, 3) the power change tactics they applied, 4) the power use tactics they employed, and 5) the outcomes associated with the power tactics. We based the coding on the theoretical framework presented in Fig. 1. To guide the coding process, we developed 11 questions, as shown in Table 1. The concepts were necessarily tentative in this study. For instance, we found that the case startup and its partners used hostile power tactics not yet identified in the literature, namely the rejection of a partner's request, demand or wish. In the final step, we linked the codes to reveal the relationship between structural power and behavioural power. This analysis step revealed nine episodes in which the relationships between these concepts became particularly visible. An episode “*can be interpreted as a specific point of interaction in time in which two or more organisations are dealing with particular matters*” (Oukes & Raesfeld, 2016, p. 52). Since the case startup and its established partners were specifically dealing

Table 1
Questions to guide the coding process.

	Question
Structural power	What resource does the partner have that is needed by the other(s)? How central is the partner's position in the network?
Perceived power	What is the partner's formal position? How does the partner perceive its own power?
Behavioural power	How does the partner perceive the other's power? How does the partner try to influence the other in a conciliatory way? How does the partner try to influence the other in a hostile way? How does the partner try to increase the importance of its own resources? How does the partner try to decrease the importance of the other's resources?
Realised power	Has the other's (perception of) the structural power changed? If so, how? Has the partner benefitted from its influence attempt? If so, how?

Table 2
Summary of the power episodes between the startup and its established partners. Underlined power use tactics are hostile, while *italicised* power use tactics are conciliatory.

	Structural power			Perceived power		Behavioural power		Power outcomes	
	Resource	Network	Formal	Own	Other	Use tactics	Change tactics	Perception	Realised
1 Startup	Technical expertise to develop the device	Access to patients/research groups		Promising new device that the other cannot build	Controls scarce, but critical resources		Increase valuation of own contribution	Startup's perceived power improved: higher valuation of new device	The teaching hospital agreed to run three clinical trials in exchange for a stake in the startup
Teaching hospital	Expertise/facilities to run clinical trials			Critical resources and network access	New device, but it is not worth testing	<u>Rejected</u> the request to run clinical trials with the device			
2 Startup	Technical expertise to develop the device		Hospital has a small share in the startup	Promising new device that the other cannot build	Controls scarce, but critical resources	<i>Collaborated</i> to help running clinical trials		Perceived power remained unchanged	It started three successful clinical trials earlier, without help from the startup
Teaching hospital	Expertise/facilities to run clinical trials	Access to patients/research groups	Hospital has a small share in the startup	Critical resources and network access	New device that is worth testing in trials				
3 Startup	Technical expertise to develop the device		Hospital has a small share in the startup	Promising new device, but no funding	Controls scarce, but critical resources			Startup's (perceived) power improved: indispensable role, financial resources	The grant allowed the project partners to further develop the device and run three clinical trials
Teaching hospital	Expertise/facilities to run clinical trials	Access to patients/research groups	Hospital has a small share in the startup	Critical resources and network access	Promising new device, but no funding	<i>Collaborated</i> to help the startup to attract funding		Perceived power remained unchanged	The intended benefits were not attracted, but the health foundation provided new partners
4 Startup	Technical expertise to develop the device			Promising new device; later targeted donations	Financial resources to fund device development	Pressured to finance device, despite disapproval			
Health foundation	Financial resources	Network diabetes-related actors	Funding policy: approval by experts	Registered charity status; network access	Promising new device, but potential not proven	<u>Rejected</u> funds; <i>collaborated</i> to attract it in another way			
5 Startup	Technical expertise to develop the device			Promising new device the other needs to innovate	Critical resources for market access		Increase valuation of own contribution	Startup perceived its own power as improved, but the market leader's perspective did not change	The intended benefits were not attracted, but the market leader provided valuable resources
Market leader	Resources to market new devices	Alternative investment possibilities available	Right of first refusal	Critical resources for market access	New device just one of the investment possibilities	<i>Integrated</i> goodwill; <u>exchanged</u> components			
6 Startup	Possibility to exploit new sensor		Exclusive right to license the sensor	Exclusive right to license the sensor	Depends on its patent to succeed with alternative	<u>Rejected</u> joining The alternative; <i>legitimated</i> with contract		Perceived power remained unchanged	The intended benefits were not attracted: the conflict ended in impasse and project was delayed
Research institute	Expertise to develop new sensor	Access to alternative partners		Better alternative available to create sensor	Depends on its expertise to develop new sensor	<i>Apprise</i> of benefits; Pressured to join other			
7 Startup	Expertise to develop monitoring platform	Access to other EU project members		The company's expertise was no longer necessary	Value provided was perceived as insufficient	<i>Persuaded</i> and pressured to transfer budget		Startup realised its limited structural power after reprimand project leader	A monitoring platform was developed, but there was no budget transfer, and tensions remained
Software company	Expertise to develop monitoring platform	Access to other EU project members	Formally allocated task and budget	Formally allocated task and budget in EU project	Budget shift not allowed without approval	<u>Rejected</u> transfer; <i>coalition</i> project leader			
8 Startup	Technical expertise to develop the device			Developed new device others can use for testing	Controls scarce, but critical resources		Increase the value of its own alternatives	Perceived power remained unchanged	The intended benefits were not attracted, but the startup could quickly connect to an alternative
Industry player	Expertise/resources to develop glucagon	Several other R&D projects		Glucagon development internally stopped	Resources in EU project no longer necessary	<u>Rejected</u> continued EU project membership			
9 Startup		Access to investors							

(continued on next page)

Table 2 (continued)

	Structural power			Perceived power		Behavioural power		Power outcomes	
	Resource	Network	Formal	Own	Other	Use tactics	Change tactics	Perception	Realised
Glucagon provider	Technical expertise to develop the device	Access to alternative partners		Developed new device others can use for testing	Controls scarce, but critical resources	<i>Coalition</i> with investor to fund glucagon		Startup's (perceived) power improved: it attracted financial resources	A partnership was initiated in which the startup provides the device and the company the glucagon
	Expertise/resources to develop glucagon			Alternatives are available to test glucagon	The developed new device can be used for testing	Rejected the funding of the production of glucagon			

with power issues, we called them power episodes. Thus, power episodes are the points in time where either the case startup, its established partner or both attempt to use or to change their power. We will now describe each of these power episodes in turn.

4. Results

In this section, we describe the nine power episodes between the case startup and its partners. The characteristics of the power plays – structural power, perceived power, power behaviour and power outcomes – have been summarised in Table 2. Sections 4.1 to 4.9 provide in-depth explanations about the structural power of the case startup and its partner, the way they perceived their own and each other's power, and the ways in which they changed or used their power. We also describe whether (and, if so, how) their power behaviour influenced their (perceptions of) structural power. Importantly, we focused solely on the interaction episodes between the case startup and its partners in which power played a decisive role.

4.1. Power episode 1: the teaching hospital almost said no to the relationship with the startup

The first power episode the startup encountered was during the initiation of the relationship with the teaching hospital's diabetology group in 2008. The startup's structural power derived from its technical expertise to develop new diabetes technologies. The teaching hospital's structural power originated from its control over the facilities and the expertise necessary to run clinical trials. Further, the hospital had an extensive network of diabetes patients and several collaborations with other diabetes-related research groups. The startup recognised that it would not be able to run clinical trials by itself and that it needed to collaborate to test the artificial pancreas' performance. The initiation of a relationship with the diabetology group was perceived as particularly critical, since it appeared to be difficult to find a suitable partner. In the previous three years, it had been in contact with various hospitals, but they were either unwilling or unable to collaborate. Nonetheless, the startup anticipated that the diabetology group would be willing to collaborate, because the group did not have people qualified to develop new diabetes technologies. However, the group initially wanted to reject the startup's request to collaborate. As the group head explained: “there have been more people who believed that they had developed an artificial pancreas. I thought that the results in the slides were very bad”. The group also knew that it could refuse a new cooperation as it had sufficient research projects running. Nonetheless, the startup was invited to explain its results in a meeting. The startup took this opportunity to convince the group of its artificial pancreas' usefulness, efficiency and safety. During the meeting, the startup changed the group's perception of the value of its contribution. The group thought that the startup's artificial pancreas was still an idea, but one that was worth testing in clinical trials. In the end, both parties successfully derived benefits from this power episode: they reached an agreement that the diabetology group would run three clinical trials in exchange for 10% of the shares in the startup.

4.2. Power episode 2: how to convince the teaching hospital to do what it had promised?

The startup successfully changed the diabetology group's perception of the artificial pancreas' value and thereby convinced it to collaborate. Although the group agreed to run clinical trials, the startup considered the execution to be too slow. It realised that the diabetology group had the power to limit its effort in the trials, because the group was also involved in another research project with a similar objective but a much larger budget. Thus, the startup felt it was just “a drop in the ocean”. In turn, it offered the group help to fulfil its agreement by contributing human resources to design, implement and analyse the trials. One of the

startup's owners noted that the PhD student assigned to the project by the diabetology group was *“the driving force, but she could not have done it on her own without our support. You should monitor patients continuously for sixty hours; you cannot do that on your own... We did it, the four of us [the startup's employees at the time] and the PhD student”*. By the end of 2011, the startup had successfully derived benefits from power episode 2: three clinical trials were run, and they showed promising results.

4.3. Power episode 3: the importance to the startup increases with the European grant

After the three clinical trials, the challenge to attract funding emerged: the startup did not have the financial resources to fund the artificial pancreas' further development. As the diabetology group perceived that the three clinical trials proved the artificial pancreas' potential value, it offered the startup help to acquire funding. Specifically, it used its structural power – i.e. its connections to diabetes-related research groups and its experience with government-funded projects – to successfully apply for funding from the European Commission together with the startup and five other partners. The grant substantially improved the perceived power of the startup. As the group head explained: *“with the grant, the [startup's] project gained viability... Before, we could have endlessly invested our own resources into the project. In the long term, that would not have been feasible for us or for the startup”*. As the project's success depended largely on the startup's technology, it gained a central position within the project. It also became a more important partner of the diabetology group owing to the financial resources that became available through the grant. The funding also allowed the startup and the teaching hospital to miniaturise the artificial pancreas and to cover the costs of three additional clinical trials.

4.4. Power episode 4: formal authority prevents an investment by the health foundation

The startup was not only involved in power struggles with the teaching hospital, but also with the diabetes health foundation. The startup's structural power stemmed from its expertise to develop a new technology – an artificial pancreas – with the potential to reduce the burden of diabetes. The health foundation's structural power derived from its control of financial resources to fund diabetes-related research and development. It also had access to a wide network of diabetes-related actors, from research institutes to industry. Yet its most decisive power source was its status as a registered charity with the national fundraising institute. To remain a registered charity, it had to adhere to the institute's standards. This included that any funding application had to be approved by an independent, international panel of field experts. If it would become known that it did not follow the institute's standards, it would withdraw the foundation's status and the number of donations it receives would drop. The expert panel's power inhibited the foundation from investing in the startup up to three times. In 2009, the startup formally applied for funding for the first time. It anticipated that the health foundation would be willing to invest in its promising new diabetes technology: an artificial pancreas. Yet the expert panel rejected the funding application, because it was not convinced that this project would be more successful than others. The foundation then offered the startup help to fulfil its request, despite this negative decision. It recognised that they needed each other to reach their shared goal: to develop an artificial pancreas. Thus, in 2013, they applied for a local government funding program. The foundation's head of research explained, *“it would be nonsense to seek review from our expert panel when it is also assessed by the government. So, if they accept our proposal, we would have sufficient proof to invest our money”*. However, the panel compiled by the government rejected the application, since there was a lack of scientific proof on the startup's artificial pancreas' performance. When the startup and the foundation were applying for government funding, the foundation started to raise donations specifically for the

development of the startup's artificial pancreas. The startup used these donations as leverage to persuade the foundation to provide direct financing. Still, it could not understand why the foundation would not want to invest in such a promising new diabetes technology. However, the foundation's head of research mentioned that *“it was difficult, because we did not have the financial resources to give a big push, and we had no independent assessment... We wanted to do something with it, but we did not yet know how and what”*. Despite the three failed attempts to attract financial resources, the foundation used its structural power to support the startup by connecting it to diabetes-related industry partners (e.g. market leader) and knowledge institutions (e.g. the research institute) in its network. In addition, the foundation's head of research said: *“If there is, at any given time, the possibility to amplify each other, we can always explore it”*. Thus, some benefits were derived from this power episode, even though it was not what the startup had intended.

4.5. Power episode 5: the startup's tries to convince the market leader to invest

In 2012, the startup met with a market leader in the diabetes device market. The startup's structural power originated from its the capabilities to quickly develop a patented artificial pancreas. In contrast, the market leader's structural power derived from its marketing and sales functions, production facilities, distribution network and brand. It also had several alternative attractive investment opportunities, i.e. partnerships with other research groups working to develop artificial pancreas systems. Although there were clear complementarities between these two potential partners, the relationship remained largely non-committal. They only effected a right of first refusal, which gave the market leader the option to buy the startup's artificial pancreas before the latter is entitled to sell it to a third party. In the years that followed, the startup tried to improve the market leader's valuation of its own contribution. It recognised that it was much more dependent on the market leader to commercialise its artificial pancreas than the other way around. Specifically, the startup a) shared clinical trial data and outcomes to show the value of its artificial pancreas, b) explained how it managed the uncertainties of the development process to reduce the market leader's risk perceptions, and c) developed its own knowledge base to gain a better negotiating position. As one of the startup's owners explained: *“you must invest in the relationship, otherwise it would not work out. You need to provide proof to that kind of partners to convince them to invest in the relationship”*. During these years, the market leader also showed its goodwill by providing the startup with components of and accessories for the artificial pancreas. In 2015, the startup perceived that its power was substantially improved owing to its own efforts and the market leader's generosity. Therefore, the startup anticipated that it could sell a minority stake to the market leader for €10 million to fund the commercialisation of the artificial pancreas. However, the market leader's power perception had not changed: it still had the power to reject the opportunity to invest. To persuade the startup to keep it up-to-date with the artificial pancreas's progress, it provided the startup additional components and accessories that, although valuable, were not what the startup had asked for.

4.6. Power episode 6: the impasse between the startup and the research institute

Initially, the relationship between the startup and the research institute was characterised by a relatively symmetrical power structure. The research institute's structural power stemmed from its technical skills to develop a new glucose sensor, while the startup structural power derived from its opportunity to commercialise a new glucose sensor. When the relationship was established in 2012, the startup needed another glucose sensor to improve the artificial pancreas' accuracy. However, it realised that it lacked the necessary technical skills to develop it. As one of the startup's owners stated, *“it is very difficult for*

us [the startup] to develop a sensor ourselves. This can only be done by large organisations". In contrast, the institute recognised that it had the technological expertise to develop the sensor, but not the possibility to commercialise its ideas. Based on these complementarities, the research institute and the startup decided to start a four-year sensor development project. However, the perception of the institute's own power improved in 2013. By that time, the institute started a multipartner project with the same intentions. It believed this project to be a better alternative than the project with the startup; thus, the relationship lost its value. The institute tried to convince the startup to end their bilateral relationship and join the multipartner project by explaining the benefits of the multipartner project. Yet, the perception of the startup's own power was also improved after closing the deal: it gained the exclusive right to license the patent once the new glucose sensor was developed. Thus, the startup was only prepared to join if it would keep the exclusive right to license the patent. Yet the institute was unwilling to complete the project so far that it could apply for a patent. It then put pressure on the startup to join the multipartner project by delaying the glucose sensor's development. The startup tried to counteract this attempt by suggesting that this behaviour counters their formal agreement. Both partners expected that they would give in to each other's requests eventually. On the one hand, the startup anticipated that the institute needed the patent to make the multipartner program successful. On the other hand, the institute recognised that it had the power to delay the glucose sensor's development as long as necessary. The conflict between the organisations finally resulted in an impasse. The project should have been finished in 2016, but even year one's project objectives were not completed. Neither party could derive any benefits from this power episode.

4.7. Power episode 7: the conflict between the software company and the startup in the EU project

In the European project, the startup had a relationship with a software company. The software company initially had more structural power than the startup. The company had the expertise to develop a software platform to monitor patients during a clinical trial. It was also formally allocated the task and associated budget in the EU project to develop such a platform. During the project, however, the startup attracted personnel with the capabilities to develop such a platform. Also, the results provided by the company did not live up to its expectations. Therefore, the startup felt more powerful than at the outset and requested a budget shift so that it could develop the platform itself. The European Commission allowed these transfers, but there was a ground rule: all partners should agree with the transfer. For obvious reasons, the company rejected the startup's demand by suggesting it was inconsistent with the rules. Despite that the startup lacked the formal authority to do so, it used all possible means to force the company into a budget transfer. In turn, the company sought the aid of the teaching hospital and the project leader in influencing the startup to stop its intimidation. It sent a message to the project leader in which it argued that the startup used blackmail to exert pressure. The project leader recognised that the conflict was spiralling out of control and that it should intervene. He explained that, "*in situations in which one party wants to go left and the other wants to go right, it may be beneficial when the project leader says let's go left this time. Then it helps that both parties have the feeling that the project leader is good at his job and has proven this in the past*". The project leader made it clear that no budget can or will be shifted if the software company does not approve. Although some tensions remained between the arguing parties, this largely solved the conflict, and the intended software platform was developed.

4.8. Power episode 8: the startup tried to enlarge its power in relation to the established industry player

In the European project, an established industry player was

responsible for developing stable liquid glucagon. A strong power asymmetry characterised the relationship between this industry player and the startup. The development of glucagon was crucial to the survival of the startup because, without it: a) the clinical trials' costs would become unacceptably high and b) it would become almost impossible to successfully commercialise the artificial pancreas. Conversely, the development of the new glucagon was just one of the industry player's many activities. In addition, its allocated budget in the European project was relatively small, and not nearly enough to fund the entire glucagon development. Even though the artificial pancreas could be used to test the glucagon, the startup recognised that it was substantially more dependent on the industry player than vice versa. It also anticipated that the industry player's glucagon development would be delayed. Accordingly, the startup attempted to improve the quality of its own alternatives by getting "*a good overview of all the potential suppliers of glucagon. It put much effort into identifying, selecting and talking to potential partners*". However, it did not have the power to prevent the industry player from prematurely withdrawing from the European project. The project was already strategically unimportant to the industry player, but it perceived it as truly needless after it shut down its glucagon development. Nonetheless, the startup's efforts led to some benefits: it could find a suitable new partner to develop stable liquid glucagon soon after the industry player had left.

4.9. Power episode 9: how did the startup enhance its offer's value for the glucagon company?

In 2015, the startup was negotiating an agreement with another glucagon company. The startup's structural power derived from its possession of the artificial pancreas, while the glucagon company's power derived from its possession of stable liquid glucagon and to access to alternative collaboration partners. During the negotiations, the two parties agreed that they wanted to run a clinical trial together in which the company would provide the glucagon and the startup would provide the artificial pancreas. Then, both parties could use the trial's results to further develop their products. Although the company was prepared to provide the glucagon, it did not want to finance the associated production costs. In addition, the startup was unable to free up budget to fund the required glucagon production. The company had the power to let the negotiations fail for this reason. It realised that it did not require the relationship with the startup to succeed, since it was also collaborating with several other researchers who were developing artificial pancreas systems. In contrast, the startup recognised that it was heavily dependent on the availability of stable liquid glucagon, as explained in paragraph 4.8 in some detail. It also noticed that the number of businesses with which it could collaborate for this purpose was limited. There were two other options, but these companies had a substantial longer expected time to market. Thus, the startup realised that the partnership must not fail and it that it had to acquire the necessary financial resources itself. Eventually, it succeeded when it found an investment company that was ready to fund the glucagon production costs. Thus, the startup successfully extracted benefits from this power episode: it could convince the company to initiate a partnership.

5. Discussion

5.1. Resource control, network position and formal position shape structural power

In line with our theoretical framework, our results show that the case startup's structural power derived from its resource control, network position and formal position. Previous research has argued that startups are usually in the power-disadvantaged position vis-à-vis established partners (Gardet & Fraiha, 2012). However, our findings indicate that this research provides an incomplete understanding of startups' power because it typically focuses on a single power source

rather than all three. We reveal that the case startup often had a power-disadvantage vis-à-vis its established partner, because it lacked a favourable network and formal position, even though it did control valued resources. We will now briefly discuss the case startup's relative power position concerning each power source.

5.1.1. Resource control

The relative value of the case startup's resources and its established partners' resources were comparable in each relationship: they both had control over resources needed or desired by the other (Table 2, episodes 1 to 9). This contrasts with previous research that suggests that resource control does explain the differences in structural power between startups and established organisations (Astley & Sachdeva, 1984; Brass & Burkhardt, 1993; Forshey, 2014). One reason may be that resource complementarity is a necessary condition for the formation of a relationship between them. The research has consistently shown that startups and established organisations are more likely to initiate a relationship if they can benefit from each other's resources (e.g. Forshey, 2014; Rothaermel & Boeker, 2008). In other words, it is unlikely for a relationship to form if they do not control resources valuable for the other. Thus, a relatively equal power relationship is likely in terms of resource control once the relationship starts. Our findings provide some evidence in this direction: it was only when the teaching hospital perceived the case startup's resources as valuable that it agreed to initiate a relationship. After the relationship started, the case startup's ability to develop new diabetes technologies and the teaching hospital's expertise in clinical trials were equally valued by the partners.

5.1.2. Network position

The case startup often had no access or restricted access to alternative partners from which it could acquire necessary resources, while its established partners had more options to pursue a similar objective (Table 2, episodes 1 to 6, 8). For instance, our findings show that the industry player could withdraw from the European project without any consequences, prompting a quick search for a new partner. This is in line with research that indicates that network position is a key determinant of a startup's and its established partner's relative power position (Huxham & Beech, 2009; Olsen et al., 2014; Pfeffer, 2009). A relationship with an established organisation leaves a startup vulnerable to its partner's power, because the latter can withdraw from the relationship without difficulties (Hughes-Morgan & Yao, 2016). Further, a greater availability of choices often results in a lower cooperation level (He, Ghobadian, & Gallea, 2013). The importance of network position to an organisation's structural power highlights that the power relationship between startups and established organisations does not exist in isolation, but is affected by their portfolio of relationships, i.e. the alternatives in which they are involved (Brennan, Canning, & McDowell, 2014; Håkansson et al., 2009).

5.1.3. Formal position

The case startup's structural power position was also determined by formal position (Table 2, episodes 2 to 7). In the European project, for instance, the teaching hospital was appointed as lead organisation and used this power to resolve the conflict between the case startup and the software company. Thus, we confirm previous literature (Albers et al., 2015; Kassler & Goldsberry, 2005; Provan, 1980; Thorgren et al., 2012) that argues that organisations may acquire power because they are given the formal authority and decision rights. We also found that contractual agreements determined the structural power position of the case startup and its established partners, although usually in favour of the established organisation (Table 2, episodes 4, 5 and 7), occasionally also to the case startup's benefit (Table 2, episode 6). Mouzas and Ford (2007, p. 44) argue that “contracts may provide more benefits and fewer restrictions on one of the parties within a relationship when compared to the other”, resulting in a power imbalance. Contracts may generally favour the established partner, because it is often able to insert clauses that

allow it to shape a relationship's structure and to institutionalise the power imbalance (Mouzas & Ford, 2007; Rindt & Mouzas, 2015). An example of such a contract is the right of first refusal that the market leader closed with the case startup. However, it is widely known that prior contractual agreements can limit an organisation's ability to change its arrangements in the future (Mouzas & Ford, 2007). Thus, an established organisation could influence the conclusion of a contract such that it meets its own interests. However, the same contract may become an obstacle when it wants to change its arrangements in response to unforeseen circumstances, shifting power to a startup. In our case, the startup's exclusive right to license the technology only became a problem for the research institute once the institute encountered more valuable alternatives.

5.2. The case startup had a less accurate power perception than its established partners

In our theoretical framework, we argued that structural power affects perceived power, even though the two generally do not fully correspond. Indeed, our results show that structural power influences the case startup's and its established partners' power perceptions. However, we also reveal that there is a substantial difference in the extent to which their perceived power accurately reflects their structural power. The case startup's perception of its own and its partners' power often did not reflect their de facto structural potential: it tended to overestimate its own power (Table 2, episodes 1, 2, 8 and 9), while it was likely to underestimate its partners' power (Table 2, episodes 3, 4 and 7). For instance, the case startup did not realise that the teaching hospital had alternative new diabetes technologies that it could test. In comparison, the case startup's partners had a reasonably accurate perception of their structural power (Table 2, episodes 1 to 5, 7 to 9). One reason may be that, compared to startups, established organisations have had considerably more time to learn about their ability to influence others. Thus, they are more likely to form a fairly accurate perception of their power over one another than startups (Wilkinson, 1996). Further, startups may lack the experience to properly assess the value of their partners' contribution and alternatives. In such a situation, they tend to project their own situation – i.e. with valuable resources but limited alternatives – onto those of their partners. Thus, startups may think that they are in an equal power relationship, regardless of differences in structural power (Pinkley, 1995; Wolfe & McGinn, 2005). Thus, our findings suggest that there is a conceptual and an empirical difference between structural and perceived power in inter-organisational relationships. This difference is meaningful because it is the power perception rather than structural power that determines the ways in which power tactics are applied, (as discussed in Section 5.3). Yet the distinction between the two concepts has not yet clearly emerged from research into inter-organisational power (Huxham & Beech, 2009; Meehan & Wright, 2012).

5.3. Perceived power and relationship atmosphere determine power behaviour

Confirming our theoretical framework, our results show that the case startup's power perception influenced its power behaviour, i.e. its decision to employ power change or power use tactics. It is to be expected that a startup would use more power use tactics than change tactics, if it behaved based on its perceived power. This is because an organisation will generally “use more of its power the more it perceives it to have” (Wilkinson, 1996, p. 36), regardless of its de facto structural potential. Indeed, we find that the case startup applied power use tactics when it perceived that it had sufficient power vis-à-vis its established partners (Table 2, episodes 2, 4, 6, 7 and 9), while it only applied power change tactics when it realised it lacked the necessary structural power to influence its partners (Table 2, episodes 1, 5 and 8). Thus, it used more power use tactics than power change tactics than one may

expect from its power-disadvantaged position. Therefore, our findings imply that organisations – just like individuals (e.g. Kim et al., 2005; Wolfe & McGinn, 2005) – choose whether to apply power change or power use tactics based on their perceived power, not their structural power.

In contrast to our theoretical framework, however, we reveal that the choice for a specific power change tactic (i.e. whether to increase the valuation of own contribution or decrease the valuation of a partner's contribution) and power use tactic (i.e. whether to act in a hostile way or in a conciliatory way) cannot be explained by the case startup's perceived power. Rather, this decision seems to be affected by other aspects of the relationship atmosphere in which organisations act. Besides the power relationship between organisations, this atmosphere consists of their 1) overall closeness, 2) conflict level and 3) expectations (Brennan et al., 2014; Håkansson, 1982). Like Kiyak, Roath, and Schatzel (2001) as well as Maglaras, Bourlakis, and Fotopoulos (2015), our findings indicate that situational factors strongly influence the exercise of power. This stresses that a model of power behaviour is not complete when other aspects that influence organisations' decision-making process are not considered. We will now briefly discuss the impact of each relationship atmosphere's aspect on the case startup's behaviour.

5.3.1. Overall closeness

The case startup sought to increase the value of its own contribution at the start of the relationship (Table 2, episodes 1 and 5), yet tried to improve the quality of its own alternatives once the relationship was initiated (Table 2, episode 8). For instance, the case startup sought to convince the teaching hospital of the performance of its artificial pancreas when it almost declined the prospect of collaborating. It may be that the increasing *closeness* between organisations over the course over a relationship explains this finding. In the early stages of a relationship, perceptions of power are likely to be unclear (Håkansson, 1982). Thus, it may require relatively little effort for startups to influence their partners' understanding of each other's power. Although structural and perceived power can change over time, the power perceptions become more stable during a relationship (Håkansson, 1982). In turn, it may be more difficult for startups to change their partners' valuation of their contribution than to increase the quality of their own alternatives.

5.3.2. Conflict level

The case startup was more likely to apply hostile than conciliatory power use tactics when its partners also apply hostile tactics (Table 2, episodes 4, 6 and 7). For instance, the case startup declined to join the research institute's multipartner project when pressured to join. A reason for this reciprocity may be that startups' reactions are likely to be affected by the conflict level generated by their partners' use of power. Johnsen and Lacoste (2016) argue that many studies have shown that the hostile use of power increases conflict to a point where it can damage a relationship. If an organisation uses hostile power tactics, its partner may feel forced into doing something against its will. In turn, this may lead to dysfunctional conflict, where its partner is more likely to reciprocate its hostile tactics (Brennan et al., 2014; Kiyak et al., 2001; Pfajfar et al., 2017; Wilkinson, 1996).

5.3.3. Expectations

The case startup was more likely to apply conciliatory power use tactics when it expected to benefit from the relationship in the future (Table 2, episodes 2 and 9). For instance, the case startup involved an investor into the relationship with the glucagon provider, since it hoped to get access to its glucagon, even though it wanted to reject the relationship. Startups' expectations of a relationship's future opportunities may influence the ways they exercise their perceived power, because the way they use power is likely to trigger their partners to react (un)favourably. If startups force their established partners to do something they had not planned to do, this may negatively affect their partners'

willingness to collaborate in the future (Gadde, 2010; Wilkinson, 1996). For instance, Rokkan and Haugland (2002) found that hostile power behaviour may inhibit the realisation of long-term benefits offered by an inter-organisational relationship. Thus, it is not problematic for a startup to aggressively apply power when it does not expect to benefit from a relationship in the future. Yet conciliatory power use tactics may offer an advantage over hostile tactics if a startup expects a relationship to lead to enhanced performance in the future (Gadde, 2010; Van Bockhaven, Matthysens, & Vandenbempt, 2015).

5.4. Power change tactics result in realised power, if perceived power is successfully changed

In our theoretical framework, we argue that the implementation of power tactics directly influences realised power, i.e. the extent to which an organisation can extract benefits. Although our results show that the implementation of power change tactics does affect realised power, we also reveal that this does not occur directly. First, our results show that the application of *power change tactics* always resulted in a benefit for the case startup, but that it could either be the intended benefit or an unintended one (Table 2, episodes 1, 5 and 8). For instance, the case startup sought to change the market leader's perception of its power, but failed. Nonetheless, it received valuable components that it could use in the development of its artificial pancreas. Although the case startup extracted benefits from the relationship in both instances, we argue that it realised power only if the desired results were achieved. If a startup's intention is to affect its partner's power perception or its behaviour, and it succeeds in doing so in the desired direction, Wrong (1979) argues that it clearly has realised some power over its partner. However, if this intention to change its partner's perception or behaviour fails, he suggests that it has not realised power over its partner but has caused to an unintended influence. In line with Kim et al. (2005), who use *influence tactics* synonymously with *power tactics*, we did not regard influence as distinct from power. In fact, most studies (e.g. Cowan et al., 2015; Kipnis, Schmidt, & Wilkinson, 1980; Lai, 2009; McFarland, Challagalla, & Shervani, 2006; Yukl & Falbe, 1990) use *influence tactics* without establishing clearly distinguishing between power and influence. An exception is the work of Gnizy (2016), who explicitly studies power rather than influence in an industrial marketing context. In ordinary usage of the terms, however, power and influence are not understood as completely substitutable (Zimmerling, 2005). Considering unintended benefits in response to the case startup's usage of power tactics, our findings also imply that it may not be justifiable to assume that *power* and *influence* are synonymous in inter-organisational relationships.

Second, we reveal that it depended on whether the case startup could successfully change its partner's power perception: if the case startup could successfully change its partner's perception of its power, power change tactics had the intended effects (Table 2, episode 1); if the case startup failed to adjust its partners' perception of its power, they had unintended benefits (Table 2, episodes 5 and 8). For instance, the case startup did not get the glucagon it sought from the industry player when it increased its alternatives, but could quickly find a new glucagon partner. Startups may be unsuccessful in changing partners' power perception because they tend to demonstrate their value from their own perspective rather than from the perspective that of their partners (Lee & Johnsen, 2012). The fact that the case startup did not seek to decrease its valuation of a partner's contribution or to decrease the quality of a partner's alternatives further supports this argument. To change a partner's perception of power, startups should also demonstrate their value in areas that are key to their partner (Lee & Johnsen, 2012). Yet, startups often lack the resources and time (Colombo, Laursen, Magnusson, & Rossi-Lamastra, 2012) to gain a good understanding of its partner's resources and alternatives.

5.5. Conciliatory use tactics result in realised power, but only coalition-building changes power

In line with our theoretical framework, our results show that power use tactics – unlike power change tactics – directly influence realised power. When the case startup applied conciliatory tactics (collaborate, persuade, build a coalition, integrate, exchange or apprise), it achieved its intended benefits (Table 2, episodes 2 and 9). For instance, the case startup ran the first three clinical trials sooner by collaborating with the teaching hospital. When the case startup applied hostile tactics (reject, pressure or legitimate), it was unable to realise its perceived power (Table 2, episodes 4, 6 and 7). For instance, the health foundation did not fund the artificial pancreas' development when put under pressure. Our findings seem unsurprising, because conciliatory tactics are used to inflict less harm on a partner than hostile tactics, and thus prompt less resistance. Consequently, conciliatory tactics are usually more successful for extracting benefits than hostile tactics (Kim et al., 2005). Yet previous research has shown that hostile power behaviour can be successful: power-disadvantaged organisations may accept hostile power behaviour as long as they also benefit (Hingley, 2005; Muthusamy & White, 2006) or simply because they have no alternatives (Homburg, Wilczek, & Hahn, 2014; Sutton-Brady, Kamvounias, & Taylor, 2015). A reason the case startup failed to achieve the desired benefits when using hostile power tactics may be that it often employed them when it felt more powerful, even though it did not have the de facto power. As its partners usually recognised that the case startup did not have the de facto power, they considered the use of hostile tactics as unjustified and were likely to resist such behaviour. Our findings provide some evidence in this direction: the software company did not transfer budget to the case startup after it was pressured, because it did not believe that the case startup had the right to demand this. This finding implies that hostile power tactics can result in realised power if an organisation that applies hostile tactics is also perceived as more powerful by its partner. If an organisation feels more powerful than its partner perceives it to be and it exercises hostile tactics, this behaviour is more likely to cause resistance, and it is less likely to extract the intended benefits. As Meehan and Wright (2012) note, it is not only important how an organisation perceives its own power, how its partners perceive its power is perhaps more important.

In addition to realised power, our theoretical framework suggests that the ways in which an organisation uses its power will also affect the accumulation and loss of both perceived and structural power. Specifically, previous research suggests that conciliatory tactics will shift relative power in favour of the *power holder*, while hostile tactics will shift relative power in favour of the *power target* (Bunderson & Reagans, 2011; Kim et al., 2005). However, we reveal that the case startup's power use tactics generally did not result in a change in structural or perceived power (Table 2, episodes 2, 4 and 6). One reason may be that partners are likely to reciprocate each other's behaviour (Oukes & Raesfeld, 2016). As discussed, both the case startup and its partners in our study are likely to use either conciliatory or hostile tactics. If both partners act in the same way, it is to be expected there is no de facto or perceived change in their power relationship: although both organisations' absolute power may change, the relative power difference between them does not. It may be that previous research has reached a different conclusion, because it has often conceptualised power as a simple one-way relationship (Hingley, Angell, & Lindgreen, 2015; Meehan & Wright, 2012). Researchers who take a one-sided view of (perceived) power may assume that the target's power stays the same when there is a change in the power holder's (perceived) power. Yet our findings suggest that a shift in an organisation's (perceived) power is also likely to cause a shift in its partner's (perceived) power. This supports the notion that a one-sided perspective leads to a distorted or incomplete picture when analysing issues as sensitive as power in inter-organisational relationships (Hingley et al., 2015; Meehan & Wright, 2012; Meqdadi, Johnsen, & Johnsen, 2017).

Although power use tactics usually did not result in a change in structural or perceived power, there was one exception: coalition-building (Table 2, episodes 7 and 9). Coalition-building refers to “seeking the aid of others in influencing the target” (Plouffe et al., 2016, p. 10). For instance, the software company built a coalition to counteract pressure from the case startup, and the case startup built a coalition with an investor in order to get the glucagon provider to collaborate. In these situations, the power perceptions were no longer solely based on the structural potentials of the case startup and its partners, but also on their perceptions of the third party's structural power. As the third party could reinforce the power of either, this influenced the perception of the power relationships between the other two partners. In a relationship between two organisations, either one partner is more powerful than the other, or both are equal. However, many more options arise when multiple partners are involved (Albers et al., 2015). Thus, in line with Heuven and Groen (2012) as well as Sheu (2015), we argue that power in inter-organisational relationships can also have a multi-directional dynamic rather than just a two-way one.

6. Conclusion

Researchers have paid little attention to the interrelationships between structural and behavioural power in the interactions between startups and established organisations from a startup's perspective. We sought to explore how structural and behavioural power interact in a startup's relationships with its established partners, conducting a longitudinal embedded case study on nine power episodes between a startup and its established partners in the medical device business. Our study's main finding is that structural and behavioural power interact through perceived power, i.e. a startup's and its partners' assessment of their relative power. On the one hand, we reveal that the case startup based its decision to apply power use or change tactics on its perception of its own and its partners' power rather than their de facto structural potentials. Its decision to use a specific type of tactic was affected by three other aspects of the relationship atmosphere: 1) closeness, 2) conflict level, and 3) expectations. On the other hand, we showed that the case startup's own and its partners' (perceived) structural power usually did not change with the startup's power behaviour. Only if one of the partners decided to build a coalition with a third actor did the structural power relationships change to an extent that they modified their power perceptions. In addition, we found that the case startup's power-disadvantaged position vis-à-vis its established partners was usually not a result of its lack of needed resources, but its limited access to alternative partners and its unfavourable formal position. However, the case startup often did not recognise its power-disadvantaged position: it tended to feel more powerful than it was, based on its structural power. As a result, the case startup used more power use tactics than power change tactics than expected. When the case startup applied power change tactics, it always turned out favourably, yet not always in the way it intended. When the case startup applied power use tactics, it could succeed or fail in extracting the desired benefits, depending on whether it exercised conciliatory or hostile tactics.

6.1. Theoretical contributions

We contribute to the startup business relationship literature by studying power's roles in the interactions between startups and established partners. Researchers have studied different aspects of startups' business relationships (Aaboen et al., 2011; Chen et al., 2009; Das & He, 2006; Diestre & Rajagopalan, 2012; Rothaermel & Boeker, 2008; Vandaie & Zaheer, 2014), but they have paid limited attention to their views of and experiences with power. Owing to startups' liabilities of smallness and newness, Gardet and Fraiha (2012) argued that they are often considered to be in a power-disadvantaged position compared to their established partners. Our findings provide more insights into what liabilities cause startups' subordinate power position, namely its small

network of alternatives and disadvantageous formal power position, rather than its lack of valuable resources. Previous research (e.g. Cowan et al., 2015; Rehme, Nordigården, Ellström, & Chicksand, 2016) also suggests that startups are not necessarily stuck in this power-disadvantaged position; thus, it is worth considering their actions intended to change a power balance. However, to this end, startups must recognise their subordinate position, and our findings suggest that this is often not the case. Thus, startups may not try to change the power relationship at all, but may seek to exercise power that does not exist. As long as startups use its non-existent power “to motivate a development towards a more collaborative relationship” (Rehme et al., 2016, p. 185), this has no negative impact on the relationship. However, hostile power behaviour from startups is likely to evoke resistance from their partner and to give rise to conflict in the relationship, especially if their partner does not share their power perception. Since power perceptions and behaviour can affect the extent of collaboration (Rehme et al., 2016), our study reveals that power plays a decisive role in startups' interactions with established partners, whether they are universities, companies, research institutes or non-governmental organisations.

We also contribute to the power literature by deriving the structural power position not only from a resource dependency perspective (i.e. resource control), but also considering an organisation's network and formal position. Most importantly, we study the under-examined interaction between structural and behavioural power based on Kim et al.'s (2005) framework. Our study shows that their framework, which was designed to explain power in interpersonal negotiations, largely applies to the study of power in interactions between startups and established organisations. As Kim et al. (2005) propose, we found that structural power partly influences a startup's perception of its own and others' power. In turn, the perceived power determines whether a startup applies power change or use tactics. Then, the ways in which it behaves (in)directly affects the extent to which it realises power. Yet, our findings suggest that the model should be expanded with a new element: the relationship atmosphere. Besides its perception of the power relationships, a startup's power behaviour also depends on its closeness with its partner, their conflict level and their mutual expectations. Thus, studies that only consider structural and behavioural power will not capture the full complexity of power dynamics between startups and established organisations.

Another contribution to the power literature is our interactive approach to analysing power, which includes the perspectives of a startup and an established organisation. Although previous research (Oukes & Raesfeld, 2016; Rutherford & Holmes, 2008) has suggested that an organisation's exercise of power depends the power perceptions and behaviour of those with which it interacts, few studies have taken a two-sided approach to this (Hingley et al., 2015). Yet several of our findings emphasise that the two-way consideration of power in inter-organisational power literature is crucial. For instance, the case startup's decision to use a specific power use tactic was shown to be influenced by its partners' power behaviour. Also, the case startup's successful implementation of hostile power use tactics was shown to depend on how its partners perceived its power position. However, our findings suggest that power is not necessarily dyadic: network position was found to partly determine the structural power of the case startup and its partners, and coalition-building was shown to substantially influence their power perceptions. Thus, the structural, perceived and behaviour power of the two organisations that are directly involved are key, but also that of their indirect counterparts. Nonetheless, very few studies have provided a multisided perspective of power; notable exceptions in the research into buyer-supplier relationships are studies by Kähkönen (2014, 2015) and Touboullic, Chicksand, and Walker (2014). Perhaps there is a lack of such studies, since they are less accessible and replicable than studies with a single or two-sided view (Hingley et al., 2015). Either way, research with a multisided perspective on power is essential to create a more complete understanding of inter-organisational power in the context of startups.

6.2. Practical implications

Our conclusions have implications for the managers, owners and directors of startups. Startups must continually assess their structural power position relative to their established partners and any other involved third actors if they can reasonably predict and are ready to respond to how these partners and actors will to behave. Such assessment must be based not only on the value of the resources they control, but also on their network centrality and hierarchical authority, two aspects that are generally neglected or ignored by startups. A realistic assessment of all three aspects can also keep startups from over-estimating their importance to an established business partner. If startups perceive that they have insufficient power compared to their established partners, they can try to minimise the power imbalance. In the early stages of a relationship, they can increase their partners' perceptions of the value of their own resources. In the later stages of a relationship, they can decrease their reliance on a specific partner by increasing the value of their alternatives. Both efforts may change their partners' power perceptions and may convince them to comply with startups' request. However, an effort to alter a power imbalance does not always have the intended outcomes: startups' established partner may reject their request. Nonetheless, an established partner may be prepared to support startups' in other ways. If startups are open to this, they can still benefit from their efforts to change a power imbalance, although not in the way they may at first desire.

If startups perceive that they have sufficient power compared to their established partners, they can use either conciliatory or hostile power tactics. Startups should be extremely wary to use hostile power tactics because they often harm an established business partner. For this reason, a partner is unlikely to respond well to rejection, pressure or legitimisation, especially if they perceive that a startup has insufficient power to use such tactics. In turn, startups are then unable to extract the intended benefits from the relationship. Startups must be aware of this interplay, since they tend to over-estimate their own power, applying more hostile power tactics than is suitable, given their lack of structural power, and not achieving the desired results. Here, they are better off using conciliatory power tactics. If startups use conciliatory power tactics, they either reduce the harm to their established partners or use their power to support it in a certain way. Accordingly, a partner is more likely to respond well to collaboration, persuasion, coalition, integration and exchange, regardless of whether they share a similar perspective of their power. In turn, startups have a higher likelihood of getting their intended benefits from the relationship.

6.3. Limitations and future research

Our study provides several meaningful theoretical contributions and managerial implications. However, it has limitations, which open avenues for further research. Three limitations arise from the boundaries of our theoretical framework. We apply the framework of Kim et al. (2005) to our case. This framework is suitable because it allowed us to study how structural and behavioural power interact through a startup's and its partners' power perceptions. However, there are a multitude of definitions and taxonomies of power. Although they are interconnected and overlap, a single model cannot capture all power dimensions simultaneously (Belaya, Gagalyuk, & Hanf, 2009). Thus, we make no claims regarding the roles of other power dimensions in the interactions between startups and established organisations. Accordingly, it would be interesting to investigate power in such interactions from different definitions and/or taxonomies of power (Johnsen & Lacoste, 2016), such as French and Raven's (1959) power base theory or Hardy and Phillips's (1998) conceptualisation of power as powers of resource, process, meaning and system.

As usual in inter-organisational power research, we have treated *power* and *influence* as synonyms in our theoretical framework. However, our findings and the work of Gnizy (2016) suggest that we

need to explicitly distinguish between the two concepts. An analysis of Zimmerling (2005) on the merits and shortcomings of interpersonal influence's definitions, as distinguished from power, may provide some guidance. Although the distinction is unclear and controversial, he argues that research should define them as two categories, because this is "best compatible with ordinary usage and most useful for theoretical purposes" (Zimmerling, 2005, p. 141). Specifically, he defines power as the "ability to get desired outcomes by making others do what one wants" and influence as "the ability to affect others' beliefs" (Zimmerling, 2005, p. 141). Using these definitions in further research, researchers will better reflect the de facto use of power (rather than merely influence).

Another limitation is that we take a power lens to investigate the relationships between a startup and its established partners. This focus makes sense, since researchers have to date neglected power's roles in such relationships. In contrast, other factors such as partner selection (Das & He, 2006; Diestre & Rajagopalan, 2012) and resource complementarity (Rothaermel & Boeker, 2008) have been studied more extensively. Nonetheless, our study shows that the case startup's power behaviour does not solely depend on its perception of its own power, not even only on the structural power and power behaviour of its partners. Also, the relationship stage and future benefits influence its decision to employ a certain power tactic. To get an in-depth understanding of why startups and their established partners choose a specific power tactic, further research should take a broader perspective that includes factors such as resource complementarity, future benefits and the like.

Two further limitations result from our methodological approach. Our longitudinal embedded case study is appropriate for exploring the interactions between structural and behavioural power in a startup's relationships with its established partners. However, an in-depth analysis of nine power episodes limits our ability to thoroughly investigate the dynamics of power over time. The case startup's relationship with the teaching hospital was the only one with multiple power episodes: for the rest, there was just one power episode per partner. However, we did show that the power perceptions and behaviour of the case startup and the teaching hospital changed over time. Also, previous research suggests that power relationships are seldom static (Chicksand, 2015), but are inherently dynamic and likely to change over time (Rehme et al., 2016; Wang, 2011). Power-advantaged organisations may seek to shift their power towards its maximum, while power-disadvantaged organisations may try to minimise their power imbalance (Molm, 2009). Yet Olsen et al. (2014) have suggested that we lack empirical research into the dynamics of power. Thus, an in-depth understanding of power dynamics in business relationships is a fruitful further research area. For instance, researchers can investigate whether the perceived power and power behaviour of each partner follows a pattern over time.

We cannot make generalisable inferences about the power tactics' effectiveness owing to the limited number of power episodes. We conclude that if a startup applies conciliatory power use tactics, it results in the intended outcomes, while hostile power use tactics don't lead to intended outcomes. Further, power change tactics are usually beneficial to a startup, even though not always in the way it expected. Although these conclusions seem straightforward, we must be cautious when generalising them to other types of startups, relationships, contexts and the like. To draw more generalisable inferences, studies that systematically examine the effectiveness of different power tactics in a larger, more diverse sample are a useful further research avenue, because startup managers are, above all, interested in the outcomes of such tactics. Otherwise, they cannot assess whether they will be beneficial or harmful in extracting value from a relationship (Plouffe et al., 2016). Further, the literature provides an inconsistent view of power tactics' effectiveness (e.g. McFarland et al., 2006; Plouffe et al., 2016).

Acknowledgements

This research was funded through FP7 grant number 305654 from the European Commission to the PCDIAB consortium, www.pcdiab.eu.

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Tamara Oukes is a PhD candidate at the Center for Entrepreneurship, Strategy, and Innovation Management (NIKOS) at the University of Twente, The Netherlands. Her research interests include start-ups, business relationships, power asymmetry and innovation. She has published in the IMP Journal. She teaches courses on strategy,

entrepreneurship, innovation, and business development.

Ariane von Raesfeld is an assistant Professor at the Center for Entrepreneurship, Strategy, and Innovation Management (NIKOS) at the University of Twente, The Netherlands. Her research interests include Innovation Processes, University Industry relationships, and Technology and Business development in networks. She has published among others in Technovation, Creativity and Innovation Management, and Industrial Marketing Management.

Aard Groen holds a double position on entrepreneurship at the University of Groningen and University of Twente. Groen is Dean entrepreneurship in Groningen, co-founder of both NIKOS and UGCE both centres of entrepreneurship at University of Twente, respectively University of Groningen. His research focuses on knowledge intensive entrepreneurship in startups and existing ventures. Other topics are university-industry collaboration, technology commercialization, key competencies for innovation, and leveraging networks for business development. His papers have been published in the Journal of Management, International Journal of Small Business, Creativity and Innovation Management, Technovation and elsewhere (see Google Scholar: <http://bit.ly/1jhj5lq>).