

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

Manuscript

January 2016

A start-up in interaction with its partners

ABSTRACT

Purpose Start-ups are companies that are not yet embedded in a pre-existing network of relationships. Studies that researched how start-ups act in their relationships focused on just one type of action and assumes that start-ups are autonomous in how they choose to act. However, organisational action in relationships is both interactive and dynamic. Therefore, the researchers aim to investigate how a start-up does interact with its partners over time.

Design/methodology/approach The research aim is addressed through a longitudinal case study of a start-up in the medical device business. It was analysed how this start-up and its six key partners acted and reacted during 18 interactions episodes, what triggered these actions and what the outcomes of their actions were. In addition, the researchers explored if and how the subsequent episodes were related.

Findings Firstly, the case shows that the past and the future affect current episodes. Secondly, it shows that action was triggered by both internal and external events which could expand or constrain opportunities for future interactions. Thirdly, the findings show that there was a pattern in the interaction modes used during the relationship. Fourthly, the findings show that the initial mode of interaction was often imitated by the counterparty. Finally, it is shown that there are clear links between the trigger, interaction process and outcome in an interaction episode.

Research implications The results indicate that besides the focal firm, partners should always be actively and directly involved in any research into organisational action. Moreover, action in relationships should be characterized as a dynamic process that is in a state of continual change.

Practical implications Managers of start-ups: (a) can influence the outcomes of their relationships through their actions; (b) have to react to both opportunities and conflicts in their relationships; (c) can rely on their network to solve conflicts; and (d) should closely consider their own actions and their counterparty's actions.

51 INTRODUCTION

52 Start-ups do not emerge in a vacuum. They build on the pre-existing resource constellations, activity
53 patterns and a web of actors in the network (Snehota, 2011). To survive in this network, start-ups have
54 to embed themselves in the established developing, producing and using setting (Håkansson, Ford,
55 Gadde, Snehota, & Waluszewski, 2009). It is not sufficient for a start-up to just develop new ideas.
56 These ideas have to be embedded in the producing and using setting to create any desirable economic
57 effect (Håkansson & Waluszewski, 2007). Consequently, a start-up is defined as *a company that is not*
58 *yet established in the pre-existing developing, producing and using setting*. In these settings, the value
59 of a start-up's resources depends on their connections to the resources of others, and the outcome of its
60 activities is interdependent with its counterparties' activities. Therefore, start-ups are dependent on the
61 skills, resources, actions and intentions of other organisations (Håkansson et al., 2009). This
62 interdependence implies that organisations are interactive instead of being independently developed
63 and implemented (Håkansson & Ford, 2002). The Industrial Marketing and Purchasing (IMP)
64 approach defines interaction as *"a constant process of action and reaction involving activities, actors*
65 *and resources"* (Håkansson et al., 2009, p. 197). Interaction may be unplanned and unintentional, but
66 it is also the process through which actors try to achieve their aims. The deliberate actions of a start-up
67 influence the extent to which its partners perceive the outcomes of the relationship as either positive or
68 negative. Subsequently, this affects its partners' willingness to take action to either support or
69 counteract a start-up's action and the potential outcomes (Das & Teng, 2002; Ring & Van de Ven,
70 1994). Therefore, start-ups need to know how to act so as to embed themselves in the pre-existing
71 network and to benefit from the resources, initiatives and activities of others (Håkansson & Ford,
72 2002; Lui & Ngo, 2005).

73
74 Yet start-ups face unique challenges in interaction. Their lack of experience, reputation and resources
75 makes it more difficult to know how to act in a relationship (Ariño, Ragozzino, & Reuer, 2008).
76 Nevertheless, start-ups contribute their own resources and activities to a relationship, just like any
77 other organisation. Moreover, they are able to control, change and adapt these resources and activities.
78 As a result, start-ups have room for taking action and making changes to reach their aims in interaction
79 (Håkansson, Olsen, & Bakken, 2013). They need *"to act, to try to control, co-ordinate and influence,*
80 *to suggest ideas and initiative, to set limits and to seek opportunities"* (Harrison, Holmen, & Pedersen,
81 2010, p. 948). Consequently, there is an increasing interest in how start-ups interact with the
82 organisations in their network. Within the IMP approach scholars have researched how start-ups
83 initiate new relationships with customers (La Rocca, Ford, & Snehota, 2013). Moreover, it was
84 investigated how a small company should interact in its business network (Raesfeld & Roos, 2008).
85 Furthermore, the patterns of start-ups' network development have been studied (Aaboen, Dubois, &
86 Lind, 2011, 2013). However, the greater part of the IMP research deals with firms that are well
87 established in their networks and enjoy long-term, close relationships. In comparison, there are only a
88 few studies on the initiation of relationships, especially by start-ups.

89
90 Outside the IMP approach, there is increasing interest in the specific actions that start-ups take in their
91 relationships. For example, Thorgren, Wincent, and Boter (2012) demonstrated that small firms are
92 more likely to comply with group norms than large firms. Also, Ariño et al. (2008) found that
93 entrepreneurial firms are more likely to avoid the problem of governance misalignment than
94 established companies. These previous studies addressed a single type of action in each paper, i.e.
95 compliance and avoidance. Yet neither took other possible types of actions, such as defiance or
96 manipulation, into account. This focus on just one type of action limits our understanding of how a
97 start-up uses different types of actions over time (Tjemkes & Furrer, 2010). Organisations take a
98 variety of actions over time to achieve their goals. At one point in time, a start-up may support the
99 actions of their partners to retain their goodwill. At another point in time, it needs to confront some
100 aspects of the relationship to improve efficiency in activities and create a development path for
101 resources (Håkansson et al., 2009). Therefore, the actions of start-ups should be analysed by studying
102 the way in which an action occurs in relation to other actions preceding and following it (Lui & Ngo,
103 2005). Secondly, a one-sided focus on organisational action restricts our insight into how the actions
104 of start-ups interact with their partners' actions and in turn affect the counterparties involved, the
105 relationship and the network. In a relationship, organisational action always takes place during

106 interaction with the counterparty. Consequently, the freedom of an organisation to take action is
107 limited and the outcomes of an action are not unequivocally related to the action of a single
108 organisation (Håkansson et al., 2009). Therefore, the action of start-ups should be characterised by the
109 unique set of interaction patterns created by the actions and reactions that go back and forth between
110 them and their partners (Lui & Ngo, 2005).

111
112 In conclusion, the quest for explaining start-ups' actions has been to focus on how start-ups interact
113 with their partners, and to propose process-focused explanations in their attempt to embed themselves
114 in a pre-existing network (Snehota, 2011). Therefore, the aim of this paper is to study how a start-up
115 interacts with its partners over time in order to embed itself in the established developing, producing
116 and using setting. For this purpose, a case study was conducted on a Dutch start-up. This start-up
117 collaborates with several organisations to develop a new medical device for the treatment of diabetes.
118 Longitudinal data was collected from both the start-up and its partners to capture the interactive and
119 dynamic nature of organisational action. The paper establishes a theoretical framework based on
120 relevant, current literature. In the Methodology section, a brief description is given of the research
121 design. This is followed by a detailed description of the evolution of the start-up's key relationships.
122 Drawing from the case description, the start-up's and its partners' actions over time are identified,
123 analysed and compared. In the Discussion, the findings of this research are compared to the theoretical
124 framework developed in the next section. The paper ends with a short conclusion, and the theoretical
125 and practical implications of this paper.

126

127 **THEORETICAL FRAMEWORK**

128

129 *A series of sequential episodes represent the interaction process*

130 Interaction in business relationships is a process that is always in a state of ongoing change. All parties
131 will continually make adjustments to the specific relationship as a result of their extensive interaction
132 at the actor, resource and activity levels (Håkansson et al., 2009; Snehota, 2011). Consequently,
133 relationships are intrinsically dynamic (Snehota, 2011). Dynamics can be considered as a series of
134 sequential 'episodes' within a continuous interaction process. Episodes are related to each other
135 because interaction is affected by what has taken place previously, and by the perceptions and
136 expectations of future interaction (Ford, Gadde, Håkansson, Snehota, & Waluszewski, 2008;
137 Håkansson et al., 2009). A single episode can be interpreted as a specific point of interaction in time in
138 which two or more organisations are dealing with particular matters. Each episode follows its own
139 logic for the start-up: it involves specific partners, it deals with certain aspects of the relationship and
140 takes place in a particular context. Most interaction episodes will be perceived as a repetitive sequence
141 of 'normal' interactions as long as the counterparties comply with their formal and informal
142 agreements (Håkansson et al., 2009; Lui & Ngo, 2005). For a start-up and its partners, these
143 interactions are part of everyday life: a normal flow of orders, payments and deliveries. In such a
144 situation, their approach to interaction is often the unconscious result of inertia and simply continues
145 the status quo. As a result, the process of interaction occurs routinely without deliberate effort or
146 planning by any of the organisations involved (Ford et al., 2008; Håkansson et al., 2009).

147

148 *External and internal triggers that change the opportunities for future interactions*

149 Many events occur as a start-up and its partners interact, but these are not all perceived as important.
150 However, events that change the nature of the possible future interaction from either of the
151 counterparties' perspectives may disrupt the otherwise repetitive sequence of 'normal' interactions
152 (Ford et al., 2008; Lui & Ngo, 2005). Such events may arise from either inside or outside the
153 interaction context (Ariño & de la Torre, 1998; Medlin, 2004). Internally, a start-up and its partners
154 continuously monitor the specific relationship to judge its value (Ariño & de la Torre, 1998; Lui &
155 Ngo, 2005; Ring & Van de Ven, 1994). These assessments involve considerations of potential, costs,
156 portfolio and network position, time and the view of the relationship held by a counterparty (Ford &
157 Mouzas, 2008). A similar re-evaluation process takes place when external changes in environmental
158 conditions or the strategic context alter the relationship's expected value to a counterparty. When
159 internal assessments and external events influence the expected value of the relationship to a start-up
160 and its partners (Ariño & de la Torre, 1998), it will have an impact on their judgement of the activity

161 links, resource ties and actor bonds. A trigger can be considered as an element of newness – internally
162 or externally – in interaction that constrains or expands the opportunities for future interaction.
163 Organisations have to continuously adapt to – often unexpected – internal and external elements of
164 newness in their relationships (Ford et al., 2008). Such adaptations involve the two partners taking
165 specific action towards each other (Lui & Ngo, 2005; Parkhe, 1998). These actions help to restore a
166 new repetitive sequence of ‘normal’ interactions (Ariño et al., 2008; Ford & Mouzas, 2008; Medlin,
167 2004). In this situation, action is often in line with a clear goal or strategy followed by one or both
168 counterparties. It may involve extensive planning, development, negotiation, bargaining or conflict
169 (Ford et al., 2008). As the action taken during this period of change will broaden or narrow the options
170 for future development, a start-up will frequently have to consider its actions (Ford & Mouzas, 2008;
171 Håkansson & Waluszewski, 2013).

172

173 *Modes of interaction to consciously affect interaction*

174 As explained previously, strategic management researchers studying organisational action in
175 relationships (e.g. Ariño et al., 2008; Lui & Ngo, 2005; Thorgren et al., 2012; Tjemkes & Furrer,
176 2010) assumed that organisations are autonomous in how they choose to act and how their actions
177 result in certain outcomes for them. Moreover, these researchers presumed that organisations can and
178 do behave purposefully to achieve these outcomes. However, the IMP approach has shown that
179 organisational acting is never one-sided. As a result, outcomes are not unequivocally related to an
180 organisation’s behaviour. Instead, the outcomes of an actor’s actions arise from the action-reaction
181 loops of both counterparties in the relationship regardless of their intent (Håkansson et al., 2009).
182 Although start-ups cannot determine the outcome of a relationship autonomously through their
183 behaviour, they do seek to behave purposefully. They tend to act in a very self-conscious way, trying
184 to force their counterparties to adapt to their intent (Aaboen et al., 2011, 2013; Håkansson et al., 2009;
185 Harrison et al., 2010; La Rocca et al., 2013). Therefore, it is still relevant to approach start-ups in
186 terms of their acting in relationships. Yet in this paper, the organisational actions defined by strategic
187 management researchers are considered ‘modes of interaction’. Mode of interaction refers to the way
188 in which an organisation consciously attempts to affect interaction. This definition takes into account
189 that organisations are not autonomous in their actions and that only via a process of interaction
190 between two or more counterparties, actions do result in outcomes. The various modes of interaction
191 are further explained in the next section.

192

193 *Interaction: the action-reaction loops between counterparties*

194 During an interaction episode, a number of ‘action-reaction’ loops are set in motion (Ariño & de la
195 Torre, 1998). Therefore, Lui and Ngo (2005) suggest that each relationship is characterised by a
196 unique interaction process created by the actions and reactions that go back and forth between the
197 partners. The interaction process is a process of change that occurs between the counterparties over
198 time. This process and its content may be separated from the two organisations themselves. The
199 interaction process is influenced by how both counterparties act and react as well as the process of
200 interaction itself. As a consequence, the interaction process derives its unique character from the two
201 involved organisations but develops in a way that is not fully controlled by either of them. Thus, what
202 an organisation can do or accomplishes becomes the outcome of the process of interaction, action and
203 reaction, move and countermove (Ford et al., 2008; Håkansson et al., 2009).

204

205 *The outcome of interaction on the actors involved, their resources and activities*

206 The outcome of the interaction process can be defined as the effect on the actors involved in it, the
207 resources they exchange and the activities they perform. Interaction always affects the actors,
208 resources and activities involved in it since it injects some novelty into the relationship. However, a
209 single episode will affect each of those involved in it differently, and therefore will be differently
210 interpreted by each of them (Ford et al., 2008; Håkansson et al., 2009). In general, interactions with a
211 ‘converting’ character stimulate further development of activity links, resource ties and actor bonds. In
212 contrast, actions with an ‘inhibiting’ character limit the progress of the relationship (Edvardsson,
213 Holmlund, & Strandvik, 2008; Elo & Törnroos, 2005). Each interaction will affect subsequent
214 interaction between the counterparties and others in multiple directions. This multidimensionality
215 makes outcomes difficult to interpret (Ford et al., 2008; Håkansson et al., 2009).

216

217 In summary, Figure 1 shows the process of interaction between a start-up and its partners. The arrows
218 from the trigger to both counterparties represent that any event – whether external or internal – that
219 changes the opportunity for further interaction may trigger action from either partner. The arrows from
220 the start-up and its partners to the spiral represent the modes of interaction to further interaction of
221 both counterparties. The arrows from the spiral towards the start-up and its partners represent their
222 interpretation and assessment of what has emerged from the interaction and what have been their
223 counterparty's intentions and modes of interaction. The spiral itself is a representation of the process
224 of interaction. The arrow from the spiral to the outcome is intended to show that the connection from
225 the start-up's or its partners' mode of action to the outcome is beyond their individual control.
226 Together these represent a single episode of interaction in which two or more organisations are dealing
227 with certain issues. In contrast, the arrows from the outcome to both counterparties show that an
228 outcome may result in new modes of interaction by the partners, while the arrow to the trigger
229 expresses that a new event may occur that subsequently brings about action by both partners. This
230 emphasises that episodes are related to each other because they are affected by what has happened
231 previously. Based on the process of interaction shown in Figure 1, five research questions were
232 developed that will be addressed in this paper:

233

1. How are the interaction episodes between a start-up and its partner interlinked?

234

2. What triggers deliberate action by a start-up and its partner?

235

3. What modes of interaction do a start-up and its partner use?

236

4. How do the interaction modes of a start-up and its partner co-occur?

237

5. What is the usual outcome of the interaction process between a start-up and its partner?

238

< Insert Figure 1 about here >

239

240 *Action in an interactive process: modes of interaction*

241 The modes of interaction are identified based on the work of Lui and Ngo (2005) and Tjemkes and
242 Furrer (2010). They developed typologies of actions that organisations take in their relationships.
243 These typologies are based on research into the long-term relationships between established
244 organisations. Yet recent studies have found that single actions of these typologies also apply to start-
245 ups (Ariño et al., 2008; Thorgren et al., 2012). Therefore, it is assumed that these action typologies
246 are also useful for studying the emerging relationship between start-ups and their counterparties. Yet
247 in contrast to previous work on a start-up's actions in relationships, this paper aims to identify the
248 variety of interaction modes used by a start-up. As explained previously, a start-up will never use only
249 one type of action. Instead it will use various modes of interaction: at the same time in various
250 relationships and at various times in the same relationship. Therefore, a focus on a single type of
251 action would limit our understanding of the range of alternative interaction modes that are available to
252 and are used by start-ups (Tjemkes & Furrer, 2010). Next, the typologies of Lui and Ngo (2005) and
253 Tjemkes and Furrer (2010) are explained, compared and integrated to identify the possible range of
254 interaction modes that start-ups and their partners may use in their relationships.

255

256 A typology including five strategic responses to external institutional processes was developed by
257 Oliver (1991). Lui and Ngo (2005) show that Oliver's typology can be extended to cooperative
258 relationships by conceptualising an organisation's action as exerting external pressure on its
259 counterparty. Specifically, they propose five types of organisational actions in a cooperative context:
260 acquiesce, compromise, avoid, defy and manipulate. *Acquiesce* refers to the compliance of an
261 organisation with the request or action of the counterparty even against its own short-term interests.
262 Organisations do this either to strategically improve the relationship or simply out of habit.
263 *Compromise* consists of the partial conformance of an organisation to the demand or action of its
264 counterparty. The organisation negotiates to seek concessions to partially change its counterparty's
265 demand or action. *Avoid* involves the lack of intention of an organisation to fulfil the counterparty's
266 request or action. Yet the organisation typically conceals this non-compliance by reducing contact so
267 that it can delay its response. *Defy* refers to an organisation's dismissal of the demand or action of its

268 counterparty by rejecting and denouncing the relationship. In extreme cases, this may lead to
269 termination of the relationship. *Manipulate* consists of the attempt of an organisation to influence,
270 shape, change or redefine the demand or request of its counterparty with the aim of overpowering it
271 (Lui & Ngo, 2005).

272
273 Similarly, Hirschman (1970) proposed a typology in which exit, voice and loyalty represent three
274 response strategies to decline in firms, organisations and states. Farrell (1983) extended this typology
275 with a fourth strategy – neglect – to form the ELVN (exit-voice-loyalty-neglect) typology. Several
276 studies have used this typology to study response strategies in a cooperative context (e.g. Geyskens &
277 Steenkamp, 2000; Ping, 1993, 1999). In the relationship context, the four EVLN response strategies
278 are defined as follows. *Exit* indicates the willingness of an organisation to discontinue a current
279 relationship. Relationship termination is the ultimate response to a troublesome situation (Ping, 1999).
280 *Voice* refers to the attempt of an organisation to overcome an adverse situation by considering the
281 concerns of its counterparty as well as its own. The organisation and its counterparty cooperatively
282 discuss the issue with the intent to develop mutually satisfactory solutions. *Loyalty* implies an
283 organisation's ignorance of a negative situation in the hope that it will resolve by itself (Ping, 1993).
284 *Neglect* consists of an organisation allowing its relationship to decline. The organisation expends little
285 effort in maintaining the relationship. Moreover, solutions to solve the undesirable situation are
286 ignored (Ping, 1993, 1999; Pressey & Qiu, 2007). Tjemkes and Furrer (2010) name the EVLN type of
287 voice 'considerate' because it mostly suggests a positive approach involving the constructive
288 discussion of the adverse situation. In addition, they extend the ELVN typology with three additional
289 responses: creative voice, aggressive voice and opportunism. *Creative voice* refers to the attempt of an
290 organisation and its counterparty to overcome an adverse situation by the generation of novel and
291 potentially innovative solutions beyond the scope of their original agreement. *Aggressive voice*
292 consists of the persistent effort of an organisation to solve an undesirable situation without regard for
293 the ideas and preferences of the counterparty. The organisation coerces its counterparty into a one-side
294 solution without trying to avoid conflict. *Opportunism* occurs when an organisation tries to maximize
295 its own short-term interest at the expense of its partners. The organisation benefits from the
296 relationship in ways that are explicitly or implicitly forbidden within the relationship.

297
298 There are clearly similarities between the typologies developed by Lui and Ngo (2005) on the one
299 hand and Tjemkes and Furrer (2010) on the other. Firstly, *compromise* and *considerate voice* both
300 refer to the active and constructive negotiation between an organisation and its counterparty in a
301 relationship-preserving manner. Secondly, *avoid* consists of neglecting to react to an emerging issue
302 with an organisation's counterparty. Tjemkes and Furrer (2010) argue that the issue can resolve by
303 itself (*loyalty*) or the relationship will start to deteriorate (*neglect*). Thirdly, *defy* is similar to
304 opportunistic behaviour depicted in transaction cost theory (Lui & Ngo, 2005), and therefore is similar
305 to *opportunism* as well. As defiance may lead to termination of the relationship in extreme cases, it is
306 also closely linked with *exit*. Fourthly, *manipulate* and *aggressive voice* both involve the forceful
307 effort of an organisation to change its relationship without taking the interests of its counterparty into
308 account. However, the action *acquiesce* proposed by Lui and Ngo (2005) and the response strategy
309 *create* described by Tjemkes and Furrer (2010) do not match any of the actions from the other
310 typology.

311
312 From this explanation and comparison, it can be concluded that a start-up and its partners can choose
313 from six modes of interaction: create, acquiesce, compromise, manipulate, avoid and defy. The first
314 mode of interaction is termed 'create' and relates to the creative voice response strategy described by
315 Tjemkes and Furrer (2010). The five other modes of interaction refer to the actions defined by Lui and
316 Ngo (2005). Compromise and manipulate find their topological equivalent in typology of Tjemkes and
317 Furrer (2010): considerate voice and aggressive voice respectively. Yet the labels of Lui and Ngo
318 (2005) are used because they appear to be more action-oriented. Furthermore, it is acknowledged the
319 latter two modes of interaction – avoid and defy – have a two-dimensional outcome. When the action
320 of the counterparty or the adverse situation is avoided the issue dissolves naturally or the relationship
321 declines. When the action of the counterparty or the troublesome situation is defied, then this may lead
322 to opportunism or exit (Tjemkes & Furrer, 2010). However, the various outcomes are not regarded as

323 separate actions because the actual behaviour in both cases is similar: avoidance and defiance
324 respectively. Table 1 summarises the definitions of the interaction modes applied in this study.

325

326

< Insert Table 1 about here >

327

328 **METHODOLOGY**

329

330 *Methodological approach*

331 A process research approach is used to address the research questions of this paper. Process studies
332 focus attention on how things and processes emerge, develop, grow or terminate over time. It draws on
333 theorising that explicitly incorporates time as an element of explanation and understanding, and
334 focusses empirically on evolving phenomena. Previous research into organisational action in
335 relationships mainly provided timeless proposition statements, typically generated in variance
336 theorising. The particulars of what makes action actionable –what to do, at what point in time, in what
337 context – were not included. Yet many studies, both within and outside the IMP approach, have
338 revealed that temporality is important and inescapable in organisational life in general and
339 relationships in particular (Bizzi & Langley, 2012; Halinen, Medlin, & Törnroos, 2012; Langley,
340 Smallman, Tsoukas, & Van de Ven, 2013). Organisational action takes place in an ongoing process of
341 interaction as exemplified in Figure 1. Thus, by taking time as the central element of study, this paper
342 aims to offer an essential contribution to organisational and management knowledge that is not
343 available from most variance-based generalisations.

344

345 *Subject of study*

346 Process research methodologies are often based on qualitative case studies. Case studies enable the
347 researchers to capture the nuances of processes in and around organisations (Bizzi & Langley, 2012;
348 Langley et al., 2013). Therefore, they correspond well to a research approach that emphasises process
349 questions. Consequently, the empirical data collection involved an in-depth case study of a start-up
350 and its partners in the medical device business. The start-up is currently developing a new solution to
351 improve the treatment of Type 1 diabetes patients: a closed-loop bi-hormonal artificial pancreas.
352 However, its system is not ready to be produced, let alone be used by diabetes patients. Consequently,
353 the company is not yet embedded in the producing and using setting. Therefore, it can still be
354 considered a start-up. Developing all the required resources and activities in-house to embed in the
355 pre-existing network is beyond the scope of the start-up. Therefore, it needs to collaborate with a wide
356 range of partners to develop, produce and market the artificial pancreas. Specifically, the start-up has a
357 key relationship with: a *teaching hospital* to carry out clinical trials on the artificial pancreas; a *health*
358 *foundation* to create awareness among patients, diabetes nurses and physicians; a *glucagon company*
359 to develop a new type of glucagon suitable for the artificial pancreas; a *research institute* to develop a
360 new type of sensor that more accurately measures blood glucose levels; and a *market leader* in the
361 diabetes device market to facilitate the marketing, sales and distribution of the artificial pancreas as
362 soon as it is market ready. Moreover, it is involved in a European funded project with six other
363 organisations from five different countries: a teaching hospital (NL), a technical university (NL), a
364 medical university (AT), an established industry player (DK), a clinical research institute (DE) and a
365 software company (TR). The project aims to advance the development of the artificial pancreas to be
366 able to bring it to the homes of patients as quickly as possible. It would not have been possible for the
367 start-up to develop a new treatment for diabetes without the support of its partners due to a lack of in-
368 house knowledge and resources.

369

370 *Data collection*

371 Longitudinal data is a key feature of process research because it is necessary to observe how processes
372 unfold over time (Langley et al., 2013). Therefore, a retrospective analysis was conducted from the
373 start of the project in 2004 until April 2013. Afterwards, the start-up was followed in real time until
374 the end of December 2014. The combination of the retrospective analysis with real-time longitudinal
375 research allows both the detection of substantial changes in relationships over long time periods and
376 the ongoing development of relationships as they emerge (Bizzi & Langley, 2012; Leonard-Barton,

1990). The analysis is based on empirical data collection from three different sources: semi-structured interviews, observations and archival documents. On the one hand, this is to be able to capture the full complexity of the interaction in the relationship between the start-up and its partners (Bizzi & Langley, 2012); on the other, to eliminate the risk that a finding is found by chance alone, which is crucial since this study is based on a single case (Doorewaard & Verschuren, 2010; Gibbert, Ruigrok, & Wicki, 2008). Firstly, direct passive and active participant observations were carried out during one of the researchers' residence at the start-up for on average of two days a week from April 2013 until December 2014. The prolonged involvement of the researcher in the processes studied enabled her to build interaction expertise and provided close access to events and actions (Langley et al., 2013). Moreover, it allowed the researcher to discover the discrepancies between what participants say they do and what they actually do. To reduce the researcher's hindsight bias, once every week a short evaluation report was written based on the field notes taken during that week. Secondly, archival documents, such as non-disclosure agreements, project descriptions and patents, are used to minimise interviewee hindsight bias and the limitations of memory recall (Langley et al., 2013).

Finally, fifteen semi-structured interviews were held with key individuals from the start-up and its partners at two moments in time as shown in Table 2. Although collecting data on both sides of the relationship at two moments in time is challenging, it allows the researchers to capture the interactive nature of action: in other words, the pattern of action and reaction between the start-up and its partners over time. Moreover, the various perceptions of triggers, actions, reactions and outcomes can be considered. This complements existing cross-sectional research that collects data from a single organisation per relationship (Ariño et al., 2008; Lui & Ngo, 2005; Thorgren et al., 2012). The selection of interviewees was based on: (1) direct interaction with the other partner(s) in the relationship; and (2) the direct involvement in the development of the start-up's artificial pancreas. The first set of interviews was held in June and July 2013, while the second set followed in December 2014. Each interview lasted approximately between 30 and 100 minutes. The first set of interviews was structured around: (1) how and why the start-up and its partner initiated the relationship; (2) what the goals of the relationship were and how the start-up and its partner ensured that these goals were achieved; and (3) how resources were exchanged between the start-up and its partner. The second set of interviews focused on: (1) how the relationship between the start-up and its partner had evolved since the first interview; (2) how the goals of the relationship were revised and how the start-up and its partner ensured that these goals were achieved developed; and (3) how the resource exchange between the start-up and its partner had been modified. Then the interviewee was asked to identify: (1) important changes in the relationship; (2) how the start-up and its partners acted during these changes; (3) why they acted the way they did; and (4) how this affected their relationship. However, the interviews were flexible enough to leave room for discussion and allowed interviewees to give examples and expand on important events and situations. The interviews involved sensitive, confidential, and political topics regarding the relationship with the start-up. Consequently, it was important to maintain confidentiality. Therefore, the names of organisations and interviewees were made anonymous. All interviews in this research were tape-recorded and then transcribed.

< Insert Table 2 about here >

Data analysis

To analyse the recorded interviews, diary and archival documents, ATLAS.ti software was employed. This software provided the tools to code the findings in the data; to evaluate the importance of these findings; and visualise the complex relations between these findings. The coding was based on the theoretical framework developed in the previous section that specified important concepts *a priori*. This helped to improve the research quality as it allowed the researchers to measure concepts more accurately. It is important to note that concepts are necessarily tentative in this type of study. The concepts could either be validated or found to be inadequate in the context of start-ups. If the validity of a concept is confirmed, then the researcher has a firmer empirical grounding for emergent theory. However, if a concept is found to be inadequate, researchers can further refine emergent theory based on the case study findings (Eisenhardt, 1989; Gibbert et al., 2008).

432 The data were analysed in five consecutive phases which are summarised in Table 3. The analysis
433 started with drawing up a history of the start-up to clarify the context of the phenomena in question.
434 Secondly, the analysis focused on identifying the important interaction episodes between the start-up
435 and its partners. ‘Temporal bracketing’ (Langley, 1999) was used to identify comparative episodes
436 within the stream of longitudinal data. These temporal brackets were constructed as a chain of
437 episodes separated by identifiable internal or external triggers in the interaction process. Temporal
438 bracketing also enabled the identification of specific actions recurring over time (Van de Ven, 1992).
439 Therefore, the data was coded in order to identify and categorise the actions and reactions of the start-
440 up and its partners in the different episodes in the third step. The six actions adopted from Tjemkes
441 and Furrer (2010) and Lui and Ngo (2005) as defined in Table 1 were used as the coding template. In
442 the fourth phase the focus was on how the interaction process affected the perceived outcome of
443 relationship as either converting or inhibiting. As explained in the previous section, interactions with a
444 ‘converting’ character stimulate further development of the relationship, while actions with an
445 ‘inhibiting’ character reduce activity links, resource ties and actor bonds. However, during the analysis
446 it appeared that the partners did not always agree on the converting or inhibiting nature of the outcome
447 of the interaction episode. In addition, the partners sometimes perceived that the interaction episode
448 had both positive and negative outcomes. In these instances, the outcome of the interaction episode
449 was labelled ‘mixed’. Moreover, temporal bracketing permitted us to analyse how the previous
450 episode impacts subsequent actions in the current episode (Langley et al., 2013). Finally, it was
451 analysed how this outcome subsequently resulted in new actions or led to a new trigger: in other
452 words, how each of the episodes was related to each other. The results of this analysis are
453 schematically presented in Table 4, and elaborated in the next part of this paper.

454
455 < Insert Table 3 about here >
456

457 RESULTS

458 *The development of the start-up*

460 In 2003, an entrepreneur – a diabetic patient – consulted his diabetes nurse for his annual check-up.
461 Over the years, he had become increasingly dissatisfied with the available treatment methods for his
462 disease. That evening, he developed the principle of a new system: a bi-hormonal artificial pancreas.
463 Yet the entrepreneur lacked the necessary knowledge to develop the system on his own. Therefore, he
464 mobilised the support of two friends: a diabetes nurse and a software developer. In 2004, they were
465 able to try out a first prototype of their system, which was the size of a small closet, on the
466 entrepreneur. When it turned out to work as intended, the entrepreneur tested the system on a few
467 more diabetics. The results were promising, and the friends started the development of a prototype of
468 about the size of a microwave oven. Nevertheless, the progress stagnated between 2005 and 2008 for
469 two main reasons. Firstly, the previous prototype was developed at the expense of the three friends.
470 However, these funds were insufficient to finance the development of a second prototype. In 2008, this
471 problem was resolved. The entrepreneur found an angel investor who was prepared to invest the
472 necessary financial resources. To make this investment possible, a new company was founded in 2008:
473 the start-up. Secondly, the start-up lacked a partner to run official clinical trials. Eventually, in 2008,
474 the start-up came into contact with the head of a teaching hospital’s diabetology group. By the end of
475 2011, two clinical trials were run by the teaching hospital. During this period, the start-up also came
476 into contact with the health foundation for diabetes. This foundation appeared to have a large network
477 of research institutes, universities, companies and non-profit organisations that were involved in
478 diabetes-related research. For example, the health foundation brought the start-up into contact with the
479 research institute. The start-up and the research institute had a mutual interest in developing a new
480 glucose sensor together. Moreover, around this time the start-up began to develop a third, smaller
481 prototype with improved functionality. The smaller artificial pancreas was about the size of
482 approximately a laptop computer. As a consequence the start-up and the teaching hospital were able to
483 try out the system in a home-environment. Previously, the artificial pancreas could only be tested in a
484 hospital setting as it was too big to wear. The results of a two day trial – in a home-environment –
485 showed that the device performed as well as the regular diabetes treatment on day one and even better
486 on day two. These promising results gave the start-up the motivation to take the project to the next

487 level. Firstly, in 2012 the start-up and the teaching hospital applied for and were granted funding from
488 the European Commission under the Seventh Framework Programme for Research and Technological
489 Development. This funding allowed the start-up to build a fourth, even smaller, prototype of the
490 artificial pancreas that would be suitable for introduction into the market. In addition, the grant would
491 cover the cost of three additional clinical trials. Secondly, the development of the artificial pancreas
492 was given a boost when the start-up won the health foundation's audience award in 2012. This award
493 generated a lot of media attention. In this way, the project was picked up by a market leader in the
494 diabetes device market. First the market leader was just cooperating to keep track of the start-up's
495 invention, but after the promising results of a test with the artificial pancreas they wanted to intensify
496 the relationship. However, the development of the start-up's artificial pancreas did not run as smoothly
497 after 2012. The start-up and the health foundation applied for funding from the Dutch government, but
498 this application was rejected. Additionally, the start-up had an issue with the research institute because
499 the institute wished to change the agreements of the relationship but the start-up did not. Moreover,
500 there was a conflict in the European project about the quality of the work that was delivered by one of
501 the involved companies. Also, another partner decided to leave the project after one-and-a-half years.
502 In conclusion, the start-up interacted with an increasing number of partners over the years.
503 Consequently, there were more and more relationships that the start-up had to engage in and manage.
504 In some instances this had a positive effect, but in others it slowed down the development of the
505 artificial pancreas.

506

507 *The start-up interacting with its partners*

508 In this section, the interaction between the start-up and its key partners, the trigger that marked the
509 start of the interaction episode and the outcome are explained in detail. The results are summarised in
510 Table 4 for each partner in chronological order and will also be discussed in this way. One important
511 aspect of this table is that there are 'white spots'. These white spots occur when either the start-up or
512 the partner was not actively (re)acting during the interaction episode. In these episodes, one of the
513 partners came with a request, proposal or demand to which the other party reacted, but there was no
514 response from the initiator to its counterparty's reaction.

515

516

< Insert Table 4 about here >

517

518 *Teaching hospital*

519 In 2006, the start-up started searching for a partner to run official clinical trials. These trials were
520 necessary to advance the development of the artificial pancreas. Moreover, they were essential to gain
521 the legitimacy in the current financial, healthcare and technical network to attract additional resources
522 from other organisations, such as funding from investors or support from diabetes patient foundations.
523 In 2008, the start-up came into contact with a physician who had read an article about the start-up's
524 artificial pancreas. Although he was enthusiastic about the device, he did not have the necessary skills
525 and facilities to conduct clinical trials. Therefore, he referred the start-up to the head of the
526 diabetology group of a teaching hospital see Table 4, Episode 1 (hereafter there is only referred to the
527 episode number). After some initial meetings to get to know each other, the start-up proposed that the
528 teaching hospital would run clinical trials in exchange for shares in the start-up. The teaching hospital
529 agreed to the type of arrangement, but wanted to cooperatively negotiate about the exact number of
530 shares in exchange for a certain amount of work. They wished to work together because there was a
531 clear dependency between them. As the head of the group explains, "*we [the teaching hospital] do not
532 have technical engineers that can develop diabetes technology in-house. However, we [the teaching
533 hospital] have access to patients and clinical expertise.*" The outcome of the negotiation was that the
534 teaching hospital would run three clinical trials in exchange for ten percent of the shares in the start-
535 up.

536

537 In 2011, two clinical trials were run by the teaching hospital, and these showed promising results. As
538 described in Episode 2, the teaching hospital came across a relevant grant for funding under the
539 Seventh Framework Programme for Research and Technological Development (FP7) from the
540 European Commission (EC) at around the same time. Therefore, it asked the start-up if it might be
541 interested in submitting a joint grant proposal. The start-up was very eager to agree to this suggestion

542 because this grant had the potential to provide it with the necessary funds to further develop the
543 artificial pancreas. In addition, being granted funding by the European Union would signal to the
544 current network that the start-up was a capable partner. As the guidelines of the European Commission
545 prescribed more than two partners, they started to search for other partners who might be interested in
546 joining the project.

547

548 *European project*

549 At the end of 2011, the teaching hospital and the start-up found five other organisations prepared to
550 join the project (Episode 3): a medical university (AT), an established industry player (DK), a clinical
551 research institute (DE), a software firm (TR), and a technical university (NL). The first three were
552 existing partners of the hospital, while the latter two were introduced by the start-up. Together the
553 partners wrote a grant proposal that both suited their own interests and the requirements of the
554 European Commission. It appeared to be straightforward to compromise over the agreements among
555 them because most partners already had experience in working together. In this process, the start-up
556 mainly agreed with the suggestions of the teaching hospital. As the entrepreneur explained: “*for us*
557 *[the start-up] it was the first time that we had written such a proposal. Then you just follow their [the*
558 *teaching hospital’s] advice.”* The result was a proposal that was granted more than two million Euros
559 of funding from the European Commission in August 2012.

560

561 As shown in Episode 4, a conflict arose between the start-up and the software company in the
562 European project in 2014. The start-up believed that the software company was working neither
563 effectively nor efficiently. Therefore, it wanted to do the task itself, and requested a budget shift. The
564 software company denied this accusation, and therefore did not agree with the transfer of the budget.
565 In response, the start-up tried to force the software company to comply with its request. This led to the
566 conflict spiralling out of control. As a result, the software company filed a complaint to the project
567 leader. The project leader talked extensively with the partners to explain to them that it is not in the
568 project’s interest for the issue to escalate to the point at which either the start-up or the software
569 company leave the project (Episode 5). Eventually, they agreed to stick to their initial agreements.
570 Although the worst part of the conflict was solved, the partners avoided further communication as
571 much as possible. This hindered the development of the portal which the software company was
572 building to monitor the performance of the artificial pancreas during clinical trials. Due to the lack of
573 communication, the portal did not satisfy the requirements of the start-up.

574

575 Also in 2014, the established industry player decided to leave the project (Episode 6). The industry
576 player was responsible for development of a stable, liquid glucagon formula. When it shut down its
577 project to develop a stable, liquid glucagon formula, there was no motivation for the industry player to
578 remain in the European project any longer. Most partners of the project were content with its leaving
579 because its budget was relatively small and they did not see any opportunity to exchange more
580 knowledge and resources. In contrast, for the start-up it resulted in the considerable challenge to find a
581 new partner. The availability of stable, liquid glucagon was crucial for the success of the artificial
582 pancreas. At that moment, glucagon was only stable for 24 hours and then has to be thrown away. In
583 contrast, the start-up needed glucagon that could be used for longer. If patients had to throw away the
584 unused glucagon every day, the costs for treatment with the artificial pancreas would become
585 unacceptable. However, as a report from the start-up stated “*for the development of the glucagon we*
586 *[the start-up] depend on external partners, which makes it difficult to control... It [the industry player]*
587 *is a very trusted partner. The company will deliver the glucagon in the near future, but takes its time*
588 *to develop the best possible solution. Therefore, we need an alternative for when glucagon*
589 *development is delayed.”* Thus, the start-up was already looking for alternative companies that were
590 developing glucagon. However, the need to create an alternative partner became suddenly more
591 urgent.

592

593 *Glucagon company*

594 After the established industry player left the European project, the start-up had to find a new partner to
595 develop stable, liquid glucagon for its artificial pancreas; see Episode 7. Through an American health
596 foundation, the start-up came into contact with an American company dedicated to the development of

597 stable, liquid glucagon. In comparison to alternative glucagon providers, the angel investor stated “*the*
598 *others were not far enough* [in their development]. *It* [the US glucagon company] *was the most*
599 *concrete...*”. Therefore, the start-up proposed to use its glucagon in one of the next clinical trials with
600 the artificial pancreas. The glucagon company accepted this offer because it was an effective and
601 efficient way to test its glucagon.

602

603 Yet there was one problem; neither partner was willing to pay for the production costs of the glucagon
604 to be used in the trial (Episode 8). Nevertheless, they were able to create a solution by using their
605 network to find interconnections between their partners. The start-up knew an American investment
606 company which had good relations with the American glucagon company. The start-up had also
607 contact with this company that, although it was interested in the start-up’s artificial pancreas, was not
608 willing to invest because it was foreign initiative. Therefore, the start-up thought it might be interested
609 in providing the funds necessary to produce the glucagon for the trial. The investment company is still
610 reviewing if it would invest its financial resources in the glucagon provider. If the investor agrees to
611 fund the joint project, then these funds would be employed to produce the glucagon.

612

613 *Health foundation*

614 As described in Episode 9, the entrepreneur of the start-up and the head of research the Dutch diabetes
615 health foundation met at a donor meeting in 2009. The start-up requested funding for the development
616 of its artificial pancreas as the health foundation is the largest financer of diabetes related research in
617 the Netherlands. The angel investor in the start-up expected “*that we* [the start-up] *would receive*
618 *funding from it* [the health foundation], *but that failed*”. The proposal was denied by the foundation
619 because the members of its internal audit committee did not give their approval. This approval was
620 necessary to legitimise the funding of the start-up’s project both to its auditors and to its benefactors.
621 However, the health foundation could do more than only providing financial support. It could “*also*
622 *help by getting them* [the start-up] *in touch with other parties and researchers...* *We* [the health
623 foundation] *can often help people in other ways to find solutions for diabetes.*” Thus, the health
624 foundation was unable to support the start-up financially, but it provided the start-up with access to its
625 network.

626

627 In 2013, the health foundation found a way to go around the foundation’s audit committee. They
628 proposed, in collaboration with the teaching hospital and technical university, to apply for funding
629 from the Dutch government (Episode 10). After negotiating the terms of this initiative, the partners
630 agreed to pursue this initiative. For the start-up this was the best chance to obtain (albeit indirectly)
631 funding from the health foundation. Furthermore, the health foundation would be able to legitimise its
632 funding for the project to its accountants and the wider public. The proposal would be reviewed by a
633 committee of experts composed by the government. However, the funding was not granted as a result
634 of what the Dutch government regarded as a lack of evidence on the effectiveness of the artificial
635 pancreas.

636

637 Before the funding application, the research foundation started a fund-raising campaign to obtain
638 sufficient funds to finance the project. Therefore, the start-up again requested direct funding from the
639 health foundation when the application to the Dutch government was rejected (Episode 11). For the
640 same reasons as mentioned previously, the foundation declined. This did not benefit the relationship
641 between the partners. They were frustrated about the fact that both parties were willing to collaborate
642 but not able to so because of internal regulations imposed on the health foundation. Nevertheless, the
643 start-up exerted pressure on the foundation using as leverage the funds that had already been raised to
644 finance the rejected project (Episode 12). As a consequence of what it regarded as manipulative action,
645 the foundation reduced its contact with the start-up. The head of research of the health foundation
646 stated “*when it turned out that it* [the project application] *was not successful, it* [the relationship with
647 the start-up] *retreated into the background. And I no longer followed the developments closely.*”

648

649 *Research institute*

650 In 2012, the health foundation organized a meeting for research institutes and industry to discuss the
651 development of new glucose sensors (Episode 14). One research institute had some initial ideas about

652 a new sensor that would not only be more accurate, but also cheaper. However, it lacked an
653 opportunity for practical application in the market. On the other hand, the start-up did not have the
654 required knowledge to develop the sensor it needed. As a consequence of this mutual dependence, they
655 started a four year co-financing project “*in which you have steps from 10, 25, 50, and 100 percent that*
656 *you [the start-up] have to fund yourself. The steps develop from scientific research to market*
657 *authorization resulting in the exclusive rights.*” It was ‘take it or leave it’ for the start-up since there
658 were no exceptions to these terms possible. The contribution from the research institute is funded from
659 taxes, and the European legislation regarding state aid prohibits any deviations from the percentage
660 ratios. The start-up complied with these terms because it appeared that existing sensors, which were
661 used in the previous trials, were not sufficiently accurate.

662
663 As shown in Episode 15, an issue between the start-up and the research institute arose in 2013. After
664 starting the relationship with the start-up, the research institute embarked on a multi-partner research
665 program with similar goals. As the research institute perceived this project to be more efficient and
666 less uncertain, the research institute requested the start-up to end the co-financing project, and to join
667 the multi-partner research program. However, the terms of the research program were quite different
668 from those of the co-financing project. The multi-partner program would enable the start-up to divide
669 the costs of the project among several project members, but all members would be entitled to use the
670 patent without paying a licence fee. Yet the start-up wanted the exclusive rights to the patent that
671 would have been the result of the co-financing project first. However, the research institute did not
672 agree to this request because the existence of a better alternative substantially reduced their
673 dependence on the start-up. Nevertheless, the research institute was legally obliged to comply with the
674 current contract for as long as the start-up does not agree to suspend it. The re-negotiations took about
675 a one-and-a-half years, and in that time the progress of the joint project slowed down substantially. As
676 the angel investor explained: “*it [the research institute] has just been obstructing us [the start-up] to*
677 *exert pressure to join the multi-partner program. We said we will not do that... It used all the tools to*
678 *obstruct us.*” Although the delay did not threaten the development of the fourth prototype, the
679 renegotiations cost the start-up precious resources.

680
681 By the end of 2014, the health foundation proposed a solution to the issue between the start-up and
682 research institute (Episode 13 and 16). At the same time, this would solve the struggle between the
683 start-up and the health foundation. The multi-partner program of the research institute needed
684 knowledge that exclusively belonged to the start-up. Thus, the multi-partner program was not able to
685 succeed without its involvement. The health foundation was one of the partners in the multi-partner
686 program, and it wanted the multi-partner program to succeed. Therefore, it proposed to finance part of
687 the start-up’s co-financing project with the research institute up to the point to which they could apply
688 for a patent. The condition of this funding was that the start-up would join the multi-partner research
689 program after the patent application. This solution appeared to be a potential win-win-win situation for
690 all three partners. The solution would enable improvement first in the ‘co-financing project’ and later
691 also in the multi-partner program. In the words of the entrepreneur: “*for everyone it is an opportunity*
692 *to start over with new courage.*”

693
694 *Market leader*

695 In 2012, the start-up won the audience award of the health foundation (Episode 17). This award
696 generated a lot of media attention. In this way, the project was picked up by a market leader in the
697 diabetes device market. After negotiating the agreements, the start-up and the market leader signed
698 several contracts, such as a Non-Disclosure Agreement and Right-of-First-Refusal. They agreed that
699 aim of the relationship at this stage was mainly to explore the possibilities for more intensive
700 collaboration. The start-up actually wanted more from the start, such as an investment or joint
701 development program. However, the market leader did not fully agree because the risk that the
702 artificial pancreas would fail was still perceived to be unacceptably high. Yet both partners believed
703 that their mutual dependency could be a good basis for further more intensive collaboration. During
704 such collaboration, the start-up could benefit from the production, sales and distribution facilities of
705 market leader, and the market leader could profit from the innovation capabilities of the start-up.

706 However, to achieve this aim the partners, especially the market leader, needed to build up a certain
707 level of trust before they would agree to a more intensive collaboration.
708

709 During the first two years of the collaboration, the market leader's confidence in the start-up's
710 capabilities grew. As the market leader explains: "*this is clearly a step; we [the market leader]
711 completed the exploring. We concluded that we wanted to continue with it [the relationship with the
712 start-up].*" Therefore, the market leader proposed intensifying the collaboration. Its proposal was to
713 use its new sensor in one of the next clinical trials with the artificial pancreas (Episode 18). The start-
714 up agreed to this proposal because the market leader's sensor was the most efficient. As a result, the
715 new sensor from the market leader would be used in one of the trials of the start-up; in this way the
716 market leader can inexpensively test its sensor while the start-up can use the best sensor available.
717

718 ANALYSIS

719 The findings described in the previous section show that the start-up and its partners interacted in a
720 way that was predicted by the research framework described in Figure 1. Therefore, the findings of the
721 18 interaction episodes presented previously are summarised, analysed and compared in light of the
722 research framework in this section.
723

724 *A series of sequential episodes represent the interaction process*

725 Table 4 shows that after the five episodes with a converting outcome (there are six converting
726 episodes, but only five were followed by a new episode), the start-up and its partners choose
727 acquiescence, defy and manipulate as modes of interaction in the subsequent episode. Although the
728 outcome of the previous episode was converting, they defied and manipulated when a conflict arose
729 between the partners. Yet if the partners saw an opportunity to strengthen the relationship, they
730 acquiesced. In spite of the successful grant for the European project, the relationship between the start-
731 up and the software company lead to a conflict. The start-up believed that the software company had
732 worked neither efficiently nor effectively and did not expect it to do so in the future. Therefore, the
733 start-up did manipulate the software company. In addition, Table 4 shows that in the five episodes that
734 followed after an episode with an inhibiting outcome, the start-up and its partners choose to create,
735 avoid, defy and manipulate. Although the outcome of the previous episode was inhibiting, they were
736 willing to create a solution if the opportunity arose to advance the relationships in a positive direction
737 again. However, if the partners expected that the conflict would spin out of control or the situation
738 would not improve, they avoided, defied and manipulated. For example, when the start-up and the
739 health foundation applied for funding this was not granted. As a result, the start-up requested direct
740 funding from the health foundation, but this request was rejected. The frustration of the start-up caused
741 by this rejection triggered the manipulation of the health foundation by the start-up. In turn, this
742 resulted in the avoidance of the start-up by the foundation. Thus, the case analysis shows that the use
743 of a particular mode of interaction in a current episode is influenced by the outcomes of previous
744 episodes. However, the nature of the trigger also influences, even more strongly, the decision to use a
745 particular mode of interaction.
746

747 *External and internal triggers that change the opportunities for future interactions*

748 Table 4 shows that in four out of the six relationships, the first interaction episode starts with an
749 external trigger. In one instance, the start-up's partner initiated the first contact after publicity for the
750 start-up in the media. In another relationship, the potential partner came into contact with the start-up
751 at a private meeting. In the other two instances, a third party influenced the relationship between the
752 start-up and a specific partner. In the relationship with the teaching hospital, the start-up was referred
753 to the head of the diabetology group by another physician, and in the relationship with the glucagon
754 company the start-up was prompted to search for a new partner because the industry player left the
755 European project. Thus, in the first interaction episode between the start-up and a specific partner an
756 external trigger often marked the beginning of the relationship. Additionally, Table 4 shows that after
757 the first episode of each relationship, interaction was triggered seven times by an external event and
758 five times by an internal event. Internally, the start-up regularly assessed the resource ties and activity
759 links with its partners. For example, the start-up perceived that the software company was not
760 delivering the required quality at the required time. Externally, alterations in the strategic context of

761 the start-up's partners triggered organisational actions; for example when the industry player decided
762 to leave the European project since it had shut down its own glucagon development project. In
763 conclusion, the results show that after the initial episode both internal and external events triggered
764 action by the start-up and its partners.

765
766 Moreover, when the nature of the triggers in Table 4 is analysed it appears that in 12 instances the
767 start-up and its partners agreed that the trigger expanded the opportunities for future interaction, while
768 in four episodes they agreed that it constrained those opportunities. In the remaining two instances: (1)
769 they did have different opinions on whether the trigger expanded or constrained the opportunities for
770 future collaboration; or (2) the trigger expanded and constrained the opportunities for future
771 interaction at the same time. For example, the research institute felt that the multi-partner program was
772 an opportunity to further develop the relationship with the start-up, while the start-up thought
773 otherwise. Furthermore, the exit of the industry player from the European project reduced the
774 possibility of collaborating with that player, but opened up opportunities to work together with another
775 partner. Therefore, the findings indicate that the actions of the start-up and its partners are triggered by
776 events that both constrain and expand opportunities for future interaction, although there can be
777 varying perspectives on the nature of the trigger. In addition, all the relationships started with
778 opportunities for collaboration, while in four relationships in a later stage events occurred that
779 inhibited further collaboration. Therefore, it can be argued that in the early stages there are always
780 opportunities to collaborate, while in later stages partners are more focused on resolving conflicts as
781 the internal and external conditions of the relationship change.

782

783 *Modes of interaction to consciously affect interaction*

784 Table 4 shows that both the start-up and its partners used a variety of interaction modes; they
785 acquiesced, compromised, created, avoided, defied and manipulated. Although the numbers are small,
786 the number of times that the start-up and its partners interact in a particular way can be compared. It
787 appears that the start-up and its partners were almost equally likely to compromise, create, avoid, defy
788 and manipulate. For example, the start-up avoided its partner once, while its partners used this mode
789 of interaction two times. In addition, they both used a creation mode of interaction four times. Table 4
790 indicates that a key aspect of the interaction mode 'create' is the involvement of third parties. In all
791 instances, the start-up and its partners were able to find novel, useful solutions to particular issues by
792 involving a third party into the relationship. If the start-up and its partners would not have had these
793 connections, it would have been very hard to overcome their issues. Moreover, the start-up
794 compromised three times and its partners four times. The start-up negotiated with the teaching
795 hospital, the health foundation and the market leader the terms of their collaboration cooperatively.
796 Only the start-up acquiesced twice as often as its partners in the interaction episodes. For instance, the
797 start-up acquiesced when the teaching hospital proposed to submit a grant proposal to gain funding
798 from the European Commission and when the market leader asked if the start-up was interested in
799 using its new sensor in the clinical trials with the artificial pancreas. To sum up, the start-up and its
800 partners both used all modes of interaction and, with the exception of acquiescence, also to roughly the
801 same extent.

802

803 *Interaction: the action-reaction loops between counterparties*

804 Table 4 shows that in seven episodes, the start-up and one of its partners used exactly the same mode
805 of interaction: create-create (three times), compromise-compromise (three times) and avoid-avoid
806 (once). In the remaining 11 episodes, the modes of interaction appeared to have the same nature in the
807 sense that: (1) the partners both followed or at least take the interests of the counterparty into account;
808 or (2) they only acted in accordance with their own interests. For example, the research institute
809 attempted to force the start-up to join the multi-partner project while the start-up challenged this
810 coercion without taking each other's interests into account. Furthermore, the partners compromised
811 over the agreements in the proposal for the grant from the European Commission, whereas the start-up
812 just complied with their propositions. Thus, there is a clear co-occurrence of interaction modes of the
813 start-up and its partners within a single episode; either the interaction mode was exactly the same or
814 had the same nature. In addition, Table 4 shows that at the beginning in three out of the six
815 relationships the modes of interaction were acquiescing or compromising followed by defiance,

816 avoidance or manipulation in later stages and subsequently creation. For example, the research
817 institute and the start-up initiated the relationship because the institute had the knowledge to develop a
818 new, better sensor while the start-up had the ability to commercialise it. Yet when the research
819 institute started the multi-partner program a conflict arose about the transfer of the start-up to that
820 program leading to defiance and manipulation. Nevertheless, they are now creating a solution to this
821 problem by involving the health foundation. In conclusion, there appears to be a pattern in the
822 development of the start-up's and its partners' interaction modes during the relationship.

823

824 *The outcome of interaction on the actors involved, their resources and activities*

825 It can be concluded from Table 4 that in the 12 episodes perceived to expand the opportunities for
826 future interaction seven times the mode of interaction was acquiescence or compromise and had a
827 (potentially) converting outcome. For example, the use of the market leader's sensors in one of the
828 next clinical trials of the start-up can be beneficial to both. In turn, this motivated the start-up to
829 acquiesce to the request of the market leader. Furthermore, there were three episodes with an
830 inhibiting effect after the start-up and its partners acted by compromising, defying and ignoring in
831 response to an opportunity. In these instances, either one of the partners was unable to take the
832 preferred action or the interaction process was influenced by factors outside the control of both
833 partners. The health foundation was unable to act in conformity because it was restricted by its audit
834 committee from funding the development of the artificial pancreas. Also, the grant proposal of the
835 start-up and the health foundation was declined by the national government. Moreover, in the
836 remainder two episodes, the partners acted by ignorance and creation and the subsequent the outcome
837 was mixed. Additionally, in the four episodes perceived to constrain the opportunities for further
838 collaboration, the interaction outcome was twofold: (a) creative actions did solve the issue and had a
839 (potentially) converting effect; and (b) defying and manipulation caused the issue to escalate and had
840 an inhibiting effect. The same applies when the start-up and its partner did not agree whether the event
841 was positive or negative in nature. Therefore, there appears to be a close interlinkage between trigger,
842 mode of interaction, interaction and outcome.

843

844 **DISCUSSION**

845 The aim of this paper was to study how a start-up interacts with its partners over time in order to
846 embed itself in the established developing, producing and using setting. The investigated start-up is
847 clearly embedded in the developing setting. It built several relationships with the partners in the
848 existing diabetes device development network, such as the teaching hospital and the partners of the
849 European project. The start-up's relationships are all research and development oriented. Only
850 following the initiation of the relationship with the market leader could the start-up take its first steps
851 to become embedded in the producing and using settings. However, it still has a long way to go before
852 it can actually produce the artificial pancreas and introduce it successfully into the market. To be able
853 to become embedded in the developing setting and take the first steps into the producing and using
854 settings, the start-up needed to interact with its partners. Without this interaction the start-up would not
855 have been able to initiate, maintain and end its relationships in the pre-existing network.

856 The Results and Analysis sections show that the evolution of the interaction between the start-up and
857 its partners over time can be characterised as a sequence of interaction episodes. These episodes are
858 interlinked because the outcome of a previous episode affects the interaction in the subsequent
859 episode. Moreover, Table 4 demonstrated that within each episode the start-up and a specific partner
860 use a certain type of interaction mode – acquiesce, compromise, create, avoid, defy or manipulate – to
861 respond to an internal or external trigger. In turn, an interaction process is set in motion in which
862 action and reaction go back and forth between the partners. This interaction process results in a
863 converting, inhibiting or mixed outcome for the start-up and its partners as well as for their activities
864 and resources. To discuss each of these aspects in-depth, in this section the research questions raised
865 in the Theoretical Framework section are addressed.

866

867 *A series of sequential episodes represent the interaction process*

868 The first research question was formulated as: How are the interaction episodes between a start-up and
869 its partner interlinked? The analysis shows that when the previous interaction episode had a converting

870 outcome, the start-up and its partners were more likely to acquiesce and compromise during the next
871 episode. Only when a conflict between them occurred, a positive outcome of the previous interaction
872 episode led to defiance and avoidance in the next episode. When the previous interaction episode had
873 an inhibiting outcome, the start-up and its partners defy, avoid and manipulate in the current one. Only
874 when an opportunity arose that allowed the partners to create a solution, the start-up and its partners
875 acted creatively. Thus, it can be concluded from the analysis that previous episodes affect subsequent
876 episodes. This confirms that the suggestion of Medlin (2004) and others that organisations memorize
877 and interpret previous interaction episodes to decide on how to act in a subsequent episode. In
878 addition, the results showed that the start-up and its partners were influenced by future expectations
879 about the relationships. If the trigger that initiated action from either partner provided an opportunity
880 to advance the collaboration, the future expectations of the outcome of the relationship were positive.
881 In turn, the partners were more likely to acquiesce, compromise and create. However, if the trigger
882 that initiated action inhibited the opportunity to maintain or develop the collaboration, the partners had
883 negative expectations of the outcome of the relationship. As a result, the partners would be more
884 inclined to avoid, defy and manipulate. Indeed the IMP approach argues that not only history impacts
885 on the interaction in a current episode, but also the expectations about future interaction. A particular
886 action can either positively or negatively impact the economic, technical and social outcomes of the
887 interaction episode. If an organisation expects that the potential outcome will be less efficient than it
888 could be, thereby harming innovation and reducing legitimacy, then it will try to counteract the
889 outcome, and vice versa (Håkansson et al., 2009).

890

891 *External and internal triggers that change the opportunities for future interactions*

892 The second research question was: What triggers deliberate action by a start-up and its partner? The
893 analysis demonstrates that an external trigger often marked the start of the relationship. This finding is
894 similar to the results reported by Holmen et al. (2005) who found in a case study of a small Dutch
895 company that its counterparties initiated the first contact, the contact was initiated by a direct
896 counterparty or the contact was initiated at a public meeting, such as a trade show or trade fair. It may
897 be that the start-up in this case did not directly initiate a relationship with a potential partner as it had
898 only restricted attention from key decision makers in its partner's organisation. Although the
899 importance of establishing the start-up's first relationships is widely recognized (La Rocca et al.,
900 2013), research shows that start-ups often find it very difficult to contact the right individuals in a
901 potential partner's organisation (Das & He, 2006; Prashantham & Birkinshaw, 2008). Furthermore, the
902 analysis shows that internal events were equally likely to occur as external events during the
903 relationships. This supports the findings of several authors (e.g. Ariño & de la Torre, 1998; Medlin,
904 2004) who found that organisational action is the result of incidents that occur either inside or outside
905 the interaction context.

906

907 More importantly, however, the findings reveal that action is triggered by events that expand as well
908 as constrain the opportunities for future interaction. This is in conflict with the findings of Ariño and
909 de la Torre (1998) who found that if the value from the relationship could increase then the initial
910 agreements are executed, but no re-negotiations would follow which may lead to a set of revised
911 agreements beyond the initial one. However, they did a longitudinal case study on the interaction
912 between two partners in a failed joint venture, whereas in this case all the relationships continue to
913 exist. Therefore, the difference may be explained by the fact that in successful relationships partners
914 act on opportunities for further collaboration, while in failing partnerships they do not. Another
915 explanation may be found in the focus of Ariño and de la Torre (1998) on events that triggered action
916 when the relationship was already established, while this paper also included the initial interaction
917 episodes in the analysis. The results show that in the early stages there are always opportunities to
918 expand the collaboration. In contrast, in later stages partners have to resolve conflicts as a result of
919 changes in the internal and external conditions of the relationship. Therefore, it may be that Ariño and
920 de la Torre (1998) would have identified events expanding the opportunities for future collaboration
921 that actually triggered action if they would have researched the partners' interaction from the start of
922 the relationship. Taken together, these findings imply that the ultimate success or failure – as well as
923 the stage of a relationship – is important to the nature of the triggers that occur.

924

925 *Modes of interaction to consciously affect interaction*

926 The third research question was formulated as follows: What modes of interaction do a start-up and its
927 partners use? The analysis demonstrates that the start-up and its partners used all six interaction
928 modes. This confirms that the six proposed interaction modes, based on the work of Tjemkes and
929 Furrer (2010) and Lui and Ngo (2005) on established organisations, can also be applied to start-ups.
930 The results of this paper showed that the start-up and its partners used the interaction modes to a
931 similar extent with the exception of acquiesce. This contradicts the findings of Ariño et al. (2008) who
932 found that entrepreneurial firms are less likely to act, and thus avoid their partner, in the presence of
933 governance misalignments than large firms. In this case, the start-up and its partners did not
934 experience either excessive or insufficient governance that required action which may explain the
935 contradictory findings. However, it confirms the results of Thorgren et al. (2012) who demonstrated
936 that small firms are more likely to acquiesce than larger firms. It may be that the start-up was more
937 likely to comply with the requests of its partners because it was asymmetrically dependent on that
938 partner. For example, the start-up stated that it complied with all the advice of the teaching hospital
939 regarding the European grant proposal as it did not have the required knowledge of how to write a
940 good proposal. Research into established organisations has already demonstrated that certain
941 characteristics of a relationship, such as dependence and trust, influence organisational interaction
942 (e.g. Lui & Ngo, 2005; Tjemkes & Furrer, 2010). However, the underlying rationale for taking a
943 particular action can be expected to differ between start-ups and established organisations because of
944 their differences in their efforts to build legitimacy, the type and frequency of external demands, how
945 much they depend on the relationship and the goals of their organisation (Thorgren et al., 2012).

946
947 In addition, the analysis reveals that an important aspect of create is the involvement of third parties.
948 This confirms the findings from Corsaro, Ramos, Henneberg, and Naudé (2011) who demonstrate that
949 network characteristics affect organisational action in a relationship. At the same time, it suggests that
950 the mode of interaction also affects the network in which the relationship is embedded. By involving
951 the third partner into the relationship between the start-up and a particular partner, the balance between
952 the relationships in its network changes. Thus, this confirms the notion of the IMP approach that
953 neither a single organisation nor a single relationship acts in isolation; each relationship will be
954 affected by and affects to a greater or lesser extent the relationships to which it is connected.

955
956 *Interaction: the action-reaction loops between counterparties*

957 The fourth research question was: How do the interaction modes of a start-up and its partners co-
958 occur? The analysis shows that the interaction mode was either exactly the same or at least was of the
959 same nature. Acquiesce, compromise and create co-occurred during the interaction episodes between
960 the start-up and its partners while manipulate, avoid and defy happened together. Acquiescence,
961 compromising and creation have in common that these interaction modes follow or consider the
962 wishes of the partners. Avoidance, defying and manipulation share that a partner tries to force
963 counterparty in a particular direction. This dichotomy overlaps with the two approaches to networking
964 identified by the IMP approach: coerce and concede. Through coercion organisations try to direct
965 specific aspects of interaction in accordance with their own intent, while by conceding they follow the
966 wishes of their partner (Håkansson et al., 2009). Yet the analysis suggests that start-ups and their
967 counterparties have multiple opportunities to choose from in the way they coerce or concede. Also, the
968 analysis reveals a pattern in the development of the start-up's and its partners' interaction modes
969 during the relationship from acquiescence and compromise, to manipulation, defiance and avoidance
970 and eventually creation. This pattern may be caused by the development of the trigger over time; in the
971 early stages there are opportunities to expand collaboration which leads to more conceding modes of
972 interaction while in later stages conflicts arise that result in more coercing modes of interaction.
973 However, as soon as the partners realise that they could harm the relationship by acting coercively,
974 they try to develop a solution to the mutual problem. Indeed, the IMP literature argues that as the
975 relationship between partners develops through interaction, they have to agree on more details of their
976 relationship than in the beginning when 'everything' is still possible (Håkansson et al., 2009). This
977 pattern in the evolution of the interaction modes over time emphasises that a focus on a single type of
978 action, as described in the work of Thorgren et al. (2012) and Ariño et al. (2008), limits our
979 understanding of how action evolves over time.

980

981 *The outcome of interaction on the actors involved, their resources and activities*

982 The final research question can be expressed as: What is the outcome of the interaction process
983 between a start-up and its partner? This case shows that interaction episodes had either converting,
984 inhibiting or mixed outcomes. This confirms contemporary literature that outcomes can be either
985 positive and negative (Edvardsson et al., 2008; Elo & Törnroos, 2005). On the other hand, the mixed
986 outcomes also imply that partners do not always perceive the outcome in the same way and that there
987 may be both positive and negative aspects of the outcome. Previous research, such as that by Tjemkes
988 and Furrer (2010), Lui and Ngo (2005) and Ariño et al. (2008), into organisational action in
989 relationship has mainly focused on its antecedents; what triggers action by a partner and why does a
990 partner chooses a particular action? Although it is important to be able to determine in what situation a
991 particular interaction mode can be used, it does not say anything about whether that is the best action
992 to use. Without considering the outcomes of an action, it is impossible to assess whether that particular
993 mode of interaction will be beneficial or harmful to a specific relationship. It may be that previous
994 studies did not research outcomes because the multidimensional character of relationship outcomes
995 makes them hard to interpret (Ford et al., 2008; Håkansson et al., 2009). Conversely, previous research
996 may have implicitly assumed the outcome of certain actions in advance. When acquiescing,
997 compromising and creating, the partner takes the interests of the counterparty into account. Therefore,
998 these modes of interaction are generally expected to result in a converting outcome. On the other hand,
999 avoidance, defiance and manipulation challenge the interests of the other partner. Consequently, these
1000 modes of interaction are usually expected to cause an inhibiting outcome. Although the analysis of this
1001 case seems to confirm the latter assumption, a conceding interaction mode did not always result in a
1002 converting outcome. In these instances, it appeared that the partners were unable to use the preferred
1003 mode of interaction due to internal restrictions or because the interaction process was negatively
1004 influenced by external factors. Therefore, the mode of interaction is influenced not only by
1005 willingness, but also by the ability to act in a particular way (Oliver, 1991).

1006 Additionally, it can be concluded that there seems to be a close linkage between trigger, mode of
1007 interaction, interaction and outcome. If the trigger expands the opportunities for collaboration, the
1008 start-up and its partner acted in a conceding way (if they were able to) and this led to a converting
1009 outcome. However, if the trigger constrains opportunities for further interaction, the start-up and its
1010 partner acted in a coercive way or creative way, and this resulted in an inhibiting or converting
1011 outcome respectively. In summary, it is not necessarily the case that conceding and coercive actions
1012 lead to converting and inhibiting outcomes respectively.

1013 **CONCLUSION**

1014 This paper has contributed to the existing literature on start-ups' actions in relationships by
1015 researching how a start-up interacted with its partners, and offers process-focused explanations in this
1016 start-up's attempt to embed in a pre-existing network. This was done by developing a conceptual
1017 research model in which interaction and dynamics are key aspects. This model was used to analyse the
1018 interaction episodes of a start-up in the medical device business with its partners. The results show a
1019 high co-occurrence of interaction modes which emphasises the interactive nature of the start-up's
1020 actions. In addition, they reveal an evolution of interaction modes over the course of the relationship, a
1021 clear link between trigger, action, interaction and outcome, and an impact of previous episodes on
1022 current ones. All three findings highlight the dynamic nature of the start-up's actions. Moreover, it was
1023 found that: (a) triggers can be internal or external in origin and can expand or constrain the
1024 opportunities for future interaction; (b) the start-up used a variety of modes of interaction and (with the
1025 exception of acquiescence) to a similar extent to its partners; and (c) the start-up and its partners rely
1026 on their network to create novel and potentially useful solutions to conflicts. In conclusion, this paper
1027 shows that the start-up's actions were not one-sided and stable, but interactive and dynamic.

1028

1029 **IMPLICATIONS FOR FUTURE RESEARCH**

1030 This paper provides six directions for future research. Firstly, previous literature and this paper
1031 provide contradictory results regarding the importance of opportunities for organisational action. As a
1032 result, future research may wish to further explore if and how 'beneficial' situations as opposed to

1033 'adverse' situations result in organisational action and in turn affect the outcomes of the relationship.
1034 Secondly, the co-occurrence of interaction modes in a single episode and the development pattern of
1035 interaction modes during the relationship, stress the importance of analysing the regularities and the
1036 recurrence of action in relationships. In other words, interaction modes should be studied in
1037 relationship to other actions both preceding and following it. Lui and Ngo (2005) identified three
1038 action patterns to characterise cooperative processes: action acquiescence, action simplicity and action
1039 reciprocity. As their research was based on established organisations, future research should address
1040 the question if these interaction patterns also apply to start-ups. The interaction patterns in single
1041 episodes and over multiple episodes that appeared in this research can be used as the starting point to
1042 further develop and study the interaction patterns of start-ups. Thirdly, the conclusions were drawn
1043 from 18 episodes of a single start-up which limits the ability to say something meaningful about the
1044 relationships between trigger, mode of interaction, interaction and outcome in other contexts, i.e. start-
1045 ups in other industries or with other types of relationships. Nevertheless, the results could form the
1046 basis for hypotheses on the relationship between these aspects that can be tested in a larger and more
1047 diverse sample of start-ups. Fourthly, the discussion reveals that several factors, such as relationship
1048 characteristics and perceptions of the past and future interaction, influence the preference for a
1049 particular type of action in an episode. Taking into account these factors in future research will help
1050 scholars to explain why start-ups and their partners act in the ways in which they do. Fifthly, the
1051 research revealed that the start-up and its partner relied on their network to create innovative solutions
1052 to their problems. Therefore, it would be interesting to initiate further research on how an interaction
1053 mode of a partner in a relationship affects and is affected by the surrounding network. Finally,
1054 managers do not only need to know what modes of interaction can be used in a certain situation, but
1055 also what the action with the most beneficial outcome is. Therefore, future research into organisational
1056 actions in relationships should involve both the antecedents of actions and their outcomes to be of
1057 practical value.

1058 **PRACTICAL IMPLICATIONS**

1059 The findings of this paper also have several implications for the managers, owners and directors of
1060 start-ups. Firstly, and most importantly, managers of start-ups have the ability to act in a variety of
1061 ways over time and in a variety of relationships. Although they do not have complete control the
1062 outcome of the interaction process, they do influence it with their actions. The case shows that if the
1063 start-up acquiesced, compromised or created it was more likely to result in converting outcomes,
1064 whereas when it avoided, defied or manipulated it was more likely to result in inhibiting outcomes.
1065 Secondly, managers of start-ups do not only have to act in response to internal or external events that
1066 constrain the opportunities for future interaction, but also to opportunities that expand the scope for
1067 future collaboration. Thirdly, they have to closely consider the ways in which they are going to act or
1068 react because partners are likely to act in a similar way. If a manager wants a partner to concede it
1069 should not act coercively because that would probably trigger a coercive reaction. Fourthly, managers
1070 of start-ups have to be aware that they can and need to rely on their network to resolve conflicts with
1071 their partners. Fifthly, they need to create an understanding of their own and their partners' interaction
1072 patterns. In this way, they will be better able to anticipate the actions and reactions of their partners.
1073 Finally, they can stimulate the initiation of relationships by seeking media attention, attending both
1074 public and private meetings and using existing partners to connect to potentially new partners.

1075 **ACKNOWLEDGEMENT**

1076 The authors would like to thank the in-depth criticisms and constructive comments of the reviewers at
1077 the IMP workshop in Manchester. In addition, they greatly appreciate the valuable remarks on a
1078 previous version of this paper. This research was funded through FP7 grant number 305654 from
1079 the European Commission to the PCDIAB consortium, www.pcdiab.eu.
1080

REFERENCES

- Aaboen, L., Dubois, A., & Lind, F. (2011). Start-ups starting up: Firms looking for a network. *The IMP Journal*, 5(1), 42-58.
- Aaboen, L., Dubois, A., & Lind, F. (2013). Strategizing as networking for new ventures. *Industrial Marketing Management*, 42(7), 1033-1041.
- Ariño, A., & de la Torre, J. (1998). Learning from Model Failure: Towards an Evolutionary Model of Collaborative Ventures. *Organization Science*, 9(3), 306-325.
- Ariño, A., Ragozzino, R., & Reuer, J. J. (2008). Alliance dynamics for entrepreneurial firms. *Journal of Management Studies*, 45(1), 147-168.
- Bizzi, L., & Langley, A. (2012). Studying processes in and around networks. *Industrial Marketing Management*, 41(2), 224-234.
- Corsaro, D., Ramos, C., Henneberg, S. C., & Naudé, P. (2011). Actor network pictures and networking activities in business networks: An experimental study. *Industrial Marketing Management*, 40(6), 919-932.
- Das, T. K., & He, I. Y. (2006). Entrepreneurial firms in search of established partners: Review and recommendations. *International Journal of Entrepreneurial Behaviour and Research*, 12(3), 114-143.
- Das, T. K., & Teng, B. S. (2002). The dynamics of alliance conditions in the alliance development process. *Journal of Management Studies*, 39(5), 725-746.
- Doorewaard, H., & Verschuren, P. (2010). *Designing a research project* (2nd ed.): The Hague: Boom Lemma Uitgevers.
- Edvardsson, B., Holmlund, M., & Strandvik, T. (2008). Initiation of business relationships in service-dominant settings. *Industrial Marketing Management*, 37(3), 339-350.
- Eisenhardt, K. M. (1989). Building theories from case study research. *The Academy of Management Review*, 14(4), 532-532.
- Elo, M., & Törnroos, J. (2005). *Relationships and networks—events enabling and inhibiting corporate internationalisation*. Paper presented at the 21st IMP conference, Rotterdam.
- Farrell, D. (1983). Exit, voice, loyalty, and neglect as responses to job dissatisfaction: A multidimensional scaling study. *Academy of Management Journal*, 26(4), 596-607.
- Ford, D., Gadde, L., Håkansson, H., Snehota, I., & Waluszewski, A. (2008). *Analysing business interaction*. Paper presented at the 24th IMP Conference Uppsala.
- Ford, D., & Mouzas, S. (2008). Is there any hope? The idea of strategy in business networks. *Australasian Marketing Journal*, 16(1), 64-78.
- Geyskens, I., & Steenkamp, J. B. E. M. (2000). Economic and social satisfaction: Measurement and relevance to marketing channel relationships. *Journal of Retailing*, 76(1), 11-32.
- Gibbert, M., Ruigrok, W., & Wicki, B. (2008). Research notes and commentaries: what passes as a rigorous case study? *Strategic Management Journal*, 29, 1465-1474.
- Håkansson, H., & Ford, D. (2002). How should companies interact in business networks? *Journal of Business Research*, 55(2), 133-139.
- Håkansson, H., Ford, D., Gadde, L., Snehota, I., & Waluszewski, A. (2009). *Business in networks*. Chichester: John Wiley & Sons.
- Håkansson, H., Olsen, P. I., & Bakken, T. (2013). Agency and economizing in interacted economies. *The IMP Journal*, 7, 106-111.
- Håkansson, H., & Waluszewski, A. (2007). *Knowledge and innovation in business and industry: The importance of using others*. London: Routledge.
- Håkansson, H., & Waluszewski, A. (2013). A never ending story—Interaction patterns and economic development. *Industrial Marketing Management*, 42(3), 443-454.
- Halinen, A., Medlin, C. J., & Törnroos, J. (2012). Time and process in business network research. *Industrial Marketing Management*, 41(2), 215-223.
- Harrison, D., Holmen, E., & Pedersen, A. (2010). How companies strategise deliberately in networks using strategic initiatives. *Industrial Marketing Management*, 39(6), 947-955.
- Hirschman, A. O. (1970). *Exit, Voice and Loyalty: responses to decline in firms, organizations and states*. Cambridge, MA: Harvard University Press.

- Holmen, E., Roos, K., Kallevag, M., Raesfeld, A. von, Boer, L. de, & Pedersen, A. (2005). *How do relationships begin?* Paper presented at the 21st IMP Conference, Rotterdam.
- La Rocca, A., Ford, D., & Snehota, I. (2013). Initial relationship development in new business ventures. *Industrial Marketing Management*, 42(7), 1025-1032.
- Langley, A. (1999). Strategies for theorizing from process data. *Academy of Management Review*, 24(4), 691-710.
- Langley, A., Smallman, C., Tsoukas, H., & Van de Ven, A. H. (2013). Process studies of change in organization and management: unveiling temporality, activity, and flow. *Academy of Management Journal*, 56(1), 1-13.
- Leonard-Barton, D. (1990). A dual methodology for case studies: Synergistic use of a longitudinal single site with replicated multiple sites. *Organization Science*, 1(3), 248-266.
- Lui, S. S., & Ngo, H.. (2005). An Action Pattern Model of Inter-firm Cooperation*. *Journal of Management Studies*, 42(6), 1123-1153.
- Medlin, C. J. (2004). Interaction in business relationships: A time perspective. *Industrial Marketing Management*, 33(3), 185-193.
- Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, 16(1), 145-179.
- Parkhe, A. (1998). Understanding trust in international alliances. *Journal of world business*, 33(3), 219-240.
- Ping, R. A. (1993). The effects of satisfaction and structural constraints on retailer exiting, voice, loyalty, opportunism, and neglect. *Journal of Retailing*, 69(3), 320-352.
- Ping, R. A. (1999). Unexplored antecedents of exiting in a marketing channel. *Journal of Retailing*, 75(2), 218-241.
- Prashantham, S., & Birkinshaw, J. (2008). Dancing with Gorillas: How small companies can partner effectively with MNCS. *California Management Review*, 51(1), 6-23+23.
- Pressey, A. D., & Qiu, X. X. (2007). Buyer-supplier relationship dissolution: The Chinese context. *Journal of Business and Industrial Marketing*, 22(2), 107-117.
- Raesfeld, A. von, & Roos, K. (2008). How should a small company interact in its business network to sustain its exchange effectiveness? *Creativity and innovation management*, 17(4), 271-280.
- Ring, Peter S., & Van de Ven, A. H. (1994). Developmental processes of cooperative interorganizational relationships. *The Academy of Management Review*, 19(1), 90-118.
- Snehota, I. (2011). New business formation in business networks. *The IMP Journal*, 5(1), 1-9.
- Thorgren, S., Wincent, J., & Boter, H. (2012). Small firms in multipartner R&D alliances: Gaining benefits by acquiescing. *Journal of Engineering and Technology Management*, 29(4), 453-467.
- Tjemkes, B., & Furrer, O. (2010). The antecedents of response strategies in strategic alliances. *Management Decision*, 48(7), 1103-1133.
- Van de Ven, A. H. (1992). Suggestion for studying strategy process: A research note. *Strategic Management Journal*, 13(Summer), 169-191.