Chapter 4

Operationalizing a Multidimensional Autonomy Construct

This chapter contributes to answering *RQ2: How can the autonomy dimensions identified by RQ1 be operationalized in a construct that enables us to measure the autonomy of venture managers?* The attempt for providing an answer to this research question is supplemented by the corresponding partial answer given in Chapter 5. The research presented in Chapter 3 identified that the autonomy of venture managers is reflected in four dimensions, namely, functional autonomy, decision autonomy, strategic autonomy and job autonomy. In this chapter, a theoretical model is developed that associates the four autonomy dimensions with corporate venture success. The model is operationalized in such a way that it provides an initial construct reflecting the autonomy of venture managers.

This chapter is based on the following publication[2]:

Gard, J., Baltes, G., & Katzy, B. (2013). **An Integrating Model of Autonomy in Corporate Entrepreneurship**. In the proceedings of the 19th ICE & IEEE-ITMC International Conference, pp. 221-235. The Hague, Netherlands.

The structure of the study is as follows. Section 4.1 sheds light on the semi-autonomous nature of corporate ventures and the necessity to measure autonomy at various dimensions. Section 4.2

[2] The author would like to thank his co-authors and the publishers of the ICE & IEEE-ITMC 2013 proceedings for their permission to reuse relevant parts of the articles in this thesis.

highlights the prevailing theoretical assumption that autonomy is essential for successful corporate venture creation and discusses established autonomy constructs. In Section 4.3, the theoretical model is designed and further developed. It is operationalized in Section 4.4. The chapter conclusion in Section 4.5 provides a partial answer to RQ2.

4.1 THE SEMI-AUTONOMOUS NATURE OF CORPORATE VENTURES

Corporate ventures develop new businesses for the corporation and are therefore separated typically from the mainstream business (see, e.g., Kuratko, 2010). They are entrepreneurial teams with the explorative task to invent a new business for entering novel business domains (Garrett & Covin, 2013). The new business evolves essentially through explorative learning efforts, such as experimentation, improvisation and search for alternatives (Simon & Houghton, 1999; McGrath, 2001). However, the corporate mainstream business is built generally around formalization and rigid hierarchies with the aim to achieve organizational efficiency (cf. Jansen et al., 2009). The organizational settings are usually ill-suited to support the explorative learning efforts through which the corporate venture thrives to a mature subunit (Dess et al., 1999). It is therefore assumed that corporate ventures should be separated from the corporation (see, e.g., Birkinshaw et al., 2002) in order to protect them from the rigid managerial cognitions and organizational inertia of the mainstream business (Block, 1989; Dougherty, 1995; Gilson, Mathieu, Shalley, & Ruddy, 2005; McGrath et al., 2012). Building on this logic, it is acknowledged that corporate venture success is associated positively with separation/autonomy (see Schuler, 1986; Kanter, 1989; Simon & Houghton, 1999; Birkinshaw et al., 2002; Burgers et al., 2009).

However, autonomy needs to be balanced carefully. Autonomy may (a) provide corporate ventures with the freedom and flexibility required to engage effectively in explorative learning modes for exploring new capabilities (Thornhill & Amit, 2000; Garrett & Neubaum, 2013). It may, however,

also (b) hamper the exploitation of those capabilities already existing in the corporation as separation isolates corporate ventures from the rest of the corporation (Garrett & Covin, 2013). Building on the assumption that corporate ventures are most successful when having the ability to simultaneously develop new capabilities and capitalize on those that already exist in the corporation (cf. Hill & Birkinshaw, 2012), it does not seem promising to establish corporate ventures as fully autonomous subunits.

Therefore, it is considered that establishing corporate ventures with suitable autonomy is more complex than simple physical separation would imply (see, e.g., Kuratko, 2010). Studies show that the autonomy of corporate ventures may reflect many conditions, such as loose versus tight control (Crockett et al., 2013), centralized versus decentralized decision-making (Birkinshaw & Hill, 2005) or dependent versus independent venture operations (Garrett & Covin, 2013). Capturing these distinct conditions involves multiple measures. It is therefore assumed that a multidimensional construct is necessary to measure the autonomy of corporate ventures precisely (see Johnson, 2012). However, research highlights that such a construct is yet to be developed (Kuratko et al., 2009; Lumpkin et al., 2009; Johnson, 2012; Crockett et al., 2013). This chapter contributes to the current body of knowledge by operationalizing an initial multidimensional construct that reflects the autonomy of venture managers.

4.2 AUTONOMY OF CORPORATE VENTURES

Corporate ventures are established by corporations for the purpose to develop a new business, tailored to enter novel business domains (e.g., Block & MacMillan, 1993; Garrett & Covin, 2013). Separation or autonomy allows corporate ventures to operate outside the established managerial cognitions (Gilbert, 2005), restrictive control systems (Simon & Houghton, 1999) and standard operating procedures of the mainstream business, all of which is necessary to invent the new

business (Block & MacMillan, 1993; Kuratko et al., 2009). Autonomy is particularly essential because prior knowledge concerning the market parameters (i.e., costumers or technologies) in the novel business domains is generally low (Kanter, 1985; Birkinshaw, 2005). This lack of prior knowledge involves that the task environment of corporate ventures is highly unpredictable (e.g., McGrath et al., 2012). Business development activities emerge and thrive under these conditions, essentially through explorative learning (Simon & Houghton, 1999). Autonomy is acknowledged as a prerequisite for effective explorative learning and thus essential for corporate venture success (McGrath, 2001).

Although scholars hold the prevailing view that autonomy is critical for the success of corporate ventures (see, e.g., Simon & Houghton, 1999; Birkinshaw & Hill, 2005; Crockett et al., 2013). It is however criticized by some that autonomy is often oversimplified (e.g., establishing corporate ventures as separated subunits) which may result in quick but not necessarily effective implementation of autonomy (see Lumpkin et al., 2009; Johnson, 2012). The autonomy of corporate ventures was measured previously through the extent to which (1) venture decision making is separated from the corporation and (2) venture operations are separated from the corporation (cf. Birkinshaw & Hill, 2005; Kuratko et al., 2009). However, these measures were severely criticized. Consequently, the discussion of the relationship between these two autonomy measures and corporate venture success falls prey to great controversy (Garrett & Covin, 2013). We illustrate the controversy by two examples. First, whereas some studies show that corporate venture success increases when venture managers enjoy high levels of decision authority (Birkinshaw & Hill, 2005; Crockett et al., 2013), others have found an inverse relationship (Thornhill & Amit, 2000). Second, studies investigating the separation of venture operations have been similarly inconclusive as they also show contradicting relations with corporate venture success (cf. Kuratko et al., 2009; Johnson, 2012; Garrett & Covin, 2013).

These findings highlight that the autonomy determining corporate venture success may not be well understood and that further conceptual work, in particular refining the ideas of autonomy, is required to generate a comprehensive understanding of the measurement construct (cf. Johnson, 2012). An explorative study was therefore conducted in Chapter 3. The results indicate that the autonomy of venture managers is mainly determined through the following four autonomy dimensions: functional autonomy, decision autonomy, strategic autonomy and job autonomy. These four autonomy dimensions are discussed in the following and propositions are developed that associate them with corporate venture success.

4.3 MODEL DEVELOPMENT

In this section, our theoretical model is presented. Therefore, propositions are developed for each autonomy dimension. In the Subsections 4.3.1 to 4.3.4 the propositions that integrate the autonomy dimensions as distinct measures in the theoretical model are developed. The propositions are summarized in Subsection 4.3.5 and illustrated in Figure 4.7.

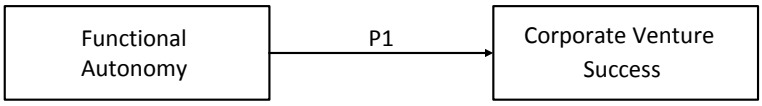
4.3.1 FUNCTIONAL AUTONOMY

In early studies, corporate ventures are characterized as cross-functional teams (e.g., with its own sales, marketing and controlling experts) that are functional autonomous from their corporations (cf. Hill & Hlavacek, 1972; Alterowitz, 1988). Later studies acknowledge that it may be beneficial to establish corporate ventures as (autonomous) cross-functional teams in order to enter new business domains successfully, in particular when the degree of novelty is high (Hitt, Nixon, Hoskisson, & Kochhar, 1999). In these cases, concurrent engineering is known as a means to coordinate the parallel work activities of the multiple experts effectively (McDonough, 2000; Koufteros, Vonderembse, & Jayaram, 2005). New business development requires multi-functional expertise and research demonstrates that it is essential for corporate venture success to pursue these

multidisciplinary activities concurrently (Katzy, Baltes, & Gard, 2014). An essential principle of concurrent engineering is that the team should consist of all experts on function that are required to perform the task (Hauptman & Hirji, 1999). Otherwise, the multiple experts on function need to be coordinated across the boundaries of functional departments (i.e., marketing, sales, R&D etc.), which is inappropriate for concurrent engineering. Building on the principle of concurrent engineering that cross-functional teams are essential to coordinate the parallel work effectively, I develop the proposition that functional autonomy (reflecting cross-functional teams) is associated positively with corporate venture success.

Proposition 1: Functional autonomy is related positively to corporate venture success.

Figure 4.1: The Impact of Functional Autonomy on Corporate Venture Success



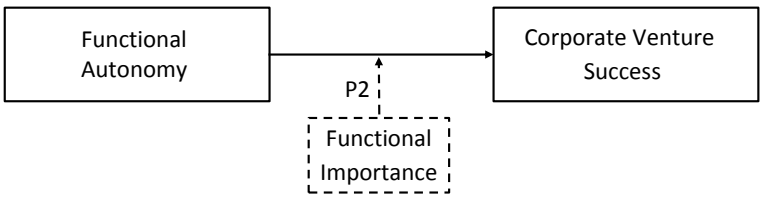
Whether it is more beneficial for corporate ventures to develop their own functional expertise (e.g., knowledge and competences concerning marketing, R&D and sales) or corporate ventures should instead utilize the expertise that is already existing in the corporation remains open for discussion (cf. Newburry & Zeira, 1999; Briody, Cavusgil, & Miller, 2004; Crockett, Payne, & McGee, 2007). Corporate ventures relying on corporate expertise increase unwittingly their dependence on the corporation (Christensen, 1997). Depending on corporate expertise restricts the venture's flexibility as ventures need to rely on rigid corporate rules to acquire corporate expertise, known as core incompetencies (Dougherty, 1995). These core incompetencies make it more unlike that new capabilities are developed and may therefore have a negative influence on corporate venture success (Garrett & Neubaum, 2013). However, it is also acknowledged that the redeployment of corporate resources (e.g., expertise) in novel business domains triggers the development of

innovative products and solutions, which may increase corporate venture success (see Baker & Nelson, 2005; McGrath et al., 2012).

While this debate continues, it is recognized that the benefits corporate ventures gain from corporate expertise may depend on how critical particular functional expertise (e.g., marketing expertise) is for corporate ventures to perform their task well (cf. Crockett et al., 2007; Garrett & Neubaum, 2013). Crocket et al. (2007) assume that corporate ventures should possess their own expertise on function (e.g., marketing) that are critical to perform their task successfully. Building on this prior assumption, I consider that the impact of functional autonomy on corporate venture success may be stronger when corporate ventures possess their own functional expertise in functional areas that are critical (functional importance) to achieve their task.

Proposition 2: *The relation between functional autonomy and corporate venture success is stronger when expertise in critical functional areas are possessed by corporate ventures.*

Figure 4.2: Functional Importance Amplifies the Impact of Functional Autonomy



The *moderation* effect that functional importance (business functions that are critical for corporate venture success) has on the relationship between functional autonomy and corporate venture success is not to be confused with a mediation effect. The moderation effect has a direct impact on the relationship between functional autonomy and corporate venture success whereas mediation would imply an indirect impact on the relationship (cf. Field, 2013).

4.3.2 DECISION AUTONOMY

Decision autonomy refers to the authority of venture managers to make decisions without seeking consensus with corporate management (e.g., Birkinshaw & Hill, 2005). Decision autonomy enhances venture managers to become more proactive and willing to take risks (cf. Bruining & Wright, 2002), which is attributed to entrepreneurial behavior (cf. Lumpkin & Dess, 1996; Hornsby, Kuratko, & Zahra, 2002b). The authority to make decisions without consensus seeking allows venture managers further to respond quickly to changes in their task environment (cf. Ginsberg & Hay, 1994) which allows them to pursue novel business opportunities more effectively (cf. Oates, 1971; Jones & Wilemon, 1973; McGrath et al., 2012). In contrast, venture managers without the authority to make decisions autonomously are unlikely to engage in innovative problem-solving and to foster new ideas (cf. McGrath, 2001).

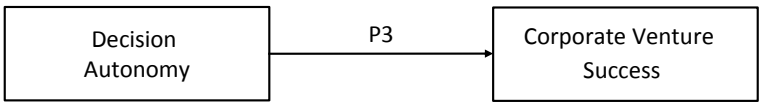
However, some research indicates that too much decision autonomy may increase the risk of failure (cf. Block & MacMillan, 1993; Simon & Houghton, 1999; Gebert, Boerner, & Lanwehr, 2003). Thornhill and Amit (2000) provide evidence that high levels of decision autonomy have a negative impact on corporate venture success. For example, such negative impact may occur due to opportunistic behavior, which can shift the vision of the new business towards individual interests (cf. Weinzimmer & Nystrom, 2015) and manifest inconsistencies with corporate strategy (cf. Feldman, 1989).

Further studies show that decision autonomy varies among functional areas, meaning for example that venture managers may have the authority to make decisions in marketing whereas corporate management makes R&D-related decisions (cf. Hill & Hlavacek, 1972; Crockett et al., 2007). Research illustrates that it is beneficial to grant decision autonomy in business functions that allow market adaptation through close interaction with market stimuli, such as customers (see Garnier, 1982; Harzing, 1999; Edwards, Ahmad, & Moss, 2002). In line with these findings, I argue that

corporate venture success is increased when venture managers are granted with decision autonomy in market-related business functions (e.g., marketing and sales).

Proposition 3: *Decision autonomy in business functions enabling market interaction is associated positively with corporate venture success.*

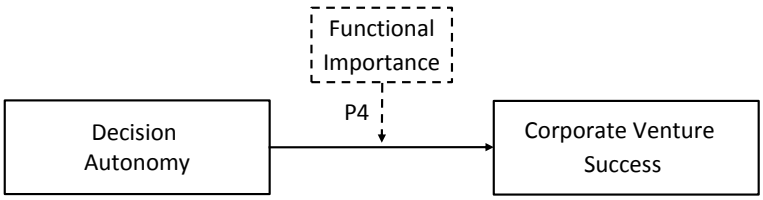
Figure 4.3: The Impact of Decision Autonomy on Corporate Venture Success



Moreover, the following proposition assumes that functional importance (business functions that are critical for corporate venture success) *moderates* the relationship between decision autonomy and corporate venture success. A positive association is found when decisions in critical business functions are made by venture managers (see Crockett et al., 2007). I build on this previous finding and argue that the impact of decision autonomy on corporate venture success depends on the importance of the respective business function (functional importance) to which decisions refer.

Proposition 4: *The relation between decision autonomy and corporate venture success increases when decisions in critical business functions are made by venture managers without approval.*

Figure 4.4: Functional Importance Amplifies the Impact of Decision Autonomy



The moderation effect of functional importance is not to be confused with a mediation effect, which would imply an indirect impact on the relationship between decision autonomy and corporate venture success (cf. Field, 2013).

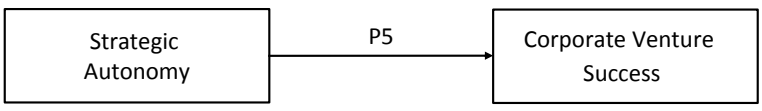
4.3.3 STRATEGIC AUTONOMY

Strategic autonomy can be defined as the authority of venture managers to make strategic decisions without seeking consensus (cf. Andersen, 2004). The relevance of strategic autonomy is rooted in the emergent nature of strategy, adhering that strategic initiatives emerge from and thrive through the managerial grassroots, i.e., middle management such as venture managers (see, e.g., Mintzberg, 1973, 1978; Mintzberg & Waters, 1985; Bower, 1986; Floyd & Wooldridge, 1992; Mintzberg, 1994; Burgelman & Grove, 1996). Emerging strategy entails that strategic initiatives can evolve unhindered from the current concept of corporate strategy (cf. Burgelman, 1983), and may even be unintended by corporate management (cf. Mintzberg & Waters, 1985). Correspondingly, it is argued in prior studies that managers should be allowed to define the means and ends of strategy autonomously (cf. Bouchard, 2002; Lumpkin et al., 2009).

Research provides evidence that strategic autonomy influences corporate success positively, especially in dynamic environments (cf. Burgelman, 1983; Andersen, 2004; Kuratko et al., 2005; Andersen & Knudsen, 2006). Thus, strategic autonomy seems to be particularly essential in uncertain task conditions where the cost for increased informal coordination of resources for mutual adjustments are outweighed by increased adaptability (cf. Thompson, 1966; Perrow, 1967). Corporate venturing is associated generally with high levels of task uncertainty (McGrath & Kim, 2013). It is therefore reasonable to assume that corporate venture success increases when venture managers are granted strategic autonomy. Correspondingly, I posit the following proposition.

Proposition 5: Strategic autonomy is related positively to corporate venture success.

Figure 4.5: The Impact of Strategic Autonomy on Corporate Venture Success

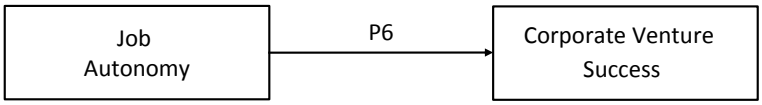


4.3.4 JOB AUTONOMY

Job autonomy is an essential characteristic of job design and refers to the discretion that the venture manager enjoys in his job (see, e.g., Hackman & Oldham, 1975b; Breaugh, 1985). Individuals with increased job autonomy are found to feel more motivated and responsible to achieve their tasks (see Parker & Sprigg, 1999; Volmer et al., 2012) which may explain the positive association between job autonomy and job performance (cf. Hackman & Oldham, 1976). It is further acknowledged that job autonomy enables self-determination (cf. Deci & Ryan, 2000; Niemiec, Ryan, & Deci, 2010), fosters creativity (cf. Hennessey & Amabile, 2010; Unsworth & Clegg, 2010), inspires creative work involvement (cf. Volmer et al., 2012), and role breath self-efficacy (cf. Axtell & Parker, 2003). These findings indicate that job autonomy allows venture managers to break out of established work procedures and think outside the box, which is essential to invent effective work methods for the new business (see Block & MacMillan, 1993; Kuratko, 2010). I therefore assume that corporate venture success increases when venture managers are granted with high levels of job autonomy.

Proposition 6: Job autonomy is related positively to corporate venture success.

Figure 4.6: The Impact of Job Autonomy on Corporate Venture Success

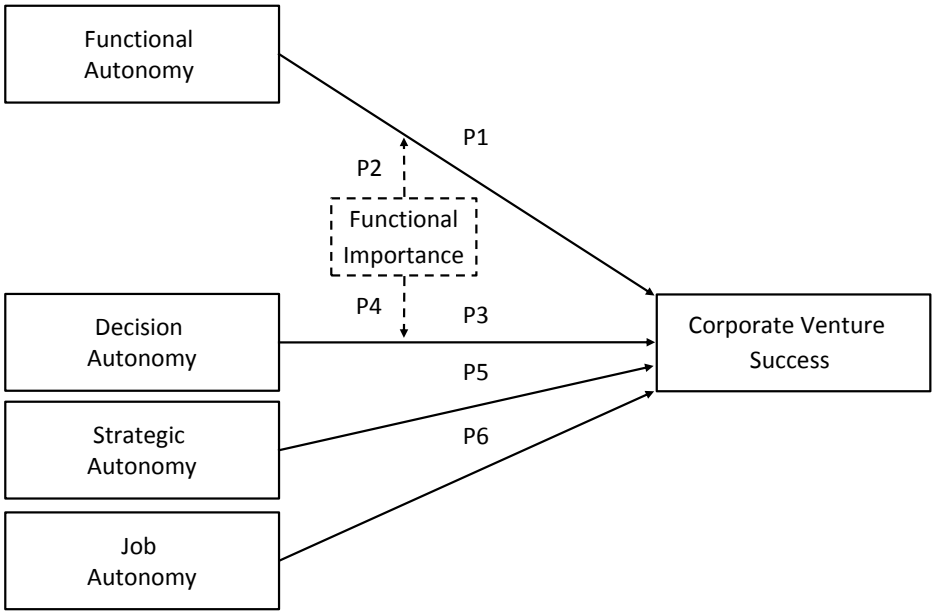


4.3.5 SUMMARIZING THE MODEL

The six propositions integrate the four autonomy dimensions into a theoretical model that relates functional autonomy, decision autonomy, strategic autonomy and job autonomy with corporate venture success. Functional importance is considered to moderate the relationships of functional

autonomy and decision autonomy with corporate venture success. The propositions are illustrated in Figure 4.7 and summarized below.

Figure 4.7: A Theoretical Model Associating Autonomy with Corporate Venture Success



Functional autonomy refers to the extent that functional expertise is available in the corporate venture team and may thus be seen as an indicator for cross-functionality. *Proposition 1 (P1)* assumes that venture creation involves the concurrent coordination of multidisciplinary activities (cf. Katzy et al., 2014) and cross-functionality has positive implications on corporate venture success. *Proposition 2 (P2)* builds on prior research which indicates that the impact of functional autonomy on corporate venture success may be enforced when functional expertise in critical business functions is available in the corporate venture team.

Decision autonomy reflects the authority of venture managers to make decisions in distinct business functions without approval. *Proposition 3 (P3)* acknowledges that new business development activities emerge and thrive through market interaction. Venture managers require therefore the ability to make responsive decisions in business functions that enable market interaction (e.g., marketing and sales) (cf. Edwards et al., 2002). Thus, it is assumed that corporate

venture success is enforced when venture managers are authorized to make decisions in market-related business functions without approval. *Proposition 4 (P4)* considers that corporate venture success may be influenced positively when the venture manager enjoys the authority to make decisions in business functions that are critical for new business development (cf. Crockett et al., 2007).

Strategic autonomy is the extent to which venture managers have the authority to make strategic decisions without approval (cf. Andersen, 2004). This authority underpins the ability of venture managers to undertake autonomous strategic initiatives (see Burgelman, 1983). The ability to do so is particularly important when environmental conditions are unpredictable, which is generally the case for corporate ventures (cf. Garrett & Covin, 2013). *Proposition 5 (P5)* therefore considers that corporate venture success is increased when venture managers are granted strategic autonomy.

Job autonomy defines the extent to which venture managers enjoy the authority to make work-mode decisions without seeking consensus with corporate management (cf. Breaugh, 1985). This authority allows venture managers to operate outside the established work procedures, which is essential to invent effective work methods (cf. Block & MacMillan, 1993; Kuratko, 2010). Correspondingly, *Proposition 6 (P6)* assumes a positive relationship between job autonomy and corporate venture success. The measures of the model are operationalized in the following section.

4.4 OPERATIONALIZATION OF THE MEASUREMENT SCALES

The measurement scales associated with the variables highlighted in Figure 4.7 are operationalized in this section. Although established measurement scales are utilized, the scales needed to be adapted in order to ensure their appropriateness to the context of corporate ventures. Therefore, an evaluation study is conducted with five venture managers and six corporate managers (overall twelve interviews as one manager is interviewed twice). On overview is given as an information

example in Appendix B. The measures are operationalized (questionnaire) by Jérôme Gard, Bernhard Katzy and Guido Baltes and finally approved by the latter two. The operationalized measurement scales are reported in the Subsections 4.4.1 to 4.4.6. The measures are operationalized on a 6-point Likert scale, which is chosen for two reasons. First, the 6-point Likert scale is consistent with the German school grading system, which ensures that the participants are familiar with the meaning of the scale. Second, a neutral answer is not possible on a 6-point Likert scale as there is no central point, which would be the case on a 5-point and 7-point Likert scale.

4.4.1 FUNCTIONAL IMPORTANCE

Definition 4.1: **Functional Importance** "*refers to the relevance of the eight business functions (1) marketing, (2) human resource development, (3) sales, (4) service, (5) finance and controlling, (6) legal affairs, (7) project management and (8) research and development to develop a new business successfully" (cf. Crockett et al., 2013).*

The scale for measuring functional importance is adapted from Crocket et al. (2007). A list of ten business functions (Marketing, HR, Sales, Customer Service, Technical Support, Strategy, Finance and Controlling, Legal Affairs, Production and R&D) is presented to the participants of the evaluation study while they are asked to select the most critical business functions for successful new business development. Out of ten, the following eight business functions are identified as critical: Marketing (e.g., marketing of new products and services), Human Resource Development (e.g., training and recruiting), Sales (e.g., sales activities), Service (e.g., support and service), Finance and Controlling (e.g., project-controlling and profit-loss accounting), Legal Affairs (e.g., cooperation and patents), Project Management (e.g., definition of milestones and key performance indicators) as well as Research and Development (e.g., development- and programming activities).

We adapted the original scale for the following four reasons. First, we consolidated the two business functions Customer Service and Technical Support to Service. The reason is that the two

business functions can often not be distinguished when the product is a service itself. This is particularly the case in the IT consulting industry for which the questionnaire is developed (see Subsection 1.3.4). Second, we question that Production in the sense of manufacturing products is relevant in the IT consulting industry where products are often software, thus manufacturing is not required. Third, we find that Project Management is an essential business function in the IT-industry, where the project business is dominating the product business. We therefore consider Project Management as an import business function and operationalized it in our measurement scale. Fourth, we rejected Strategy as we do not perceive strategy making as a business function. We rather consider it as a competence of the venture manager as it is later described in Subsection 4.4.4.

Corresponding to the four reasons, the original ten-item measurement scale is reduced to the eight-item scale. Our scale is summarized in Table 4.1. There, participants are asked to indicate the importance of each of the eight business functions for the success of the new business on a 6-point Likert scale. A score of 1 means that the function has very little influence on success and a score of 6 means that the function is critical for the success of the new business. The measurement scale is also presented in Table 4.1.

Table 4.1: Functional Importance Measurement Scale adapted from Crockett et al. (2007)

Functional Importance adapted from Crockett et al. (2007)						
Participants are asked to indicate the importance of each of the eight business functions for the success of the new business.						
	Very little influence on success					Critical for success
	1	2	3	4	5	6
1. Marketing	○	○	○	○	○	○
2. Human Resource Development	○	○	○	○	○	○
3. Sales	○	○	○	○	○	○
4. Service	○	○	○	○	○	○
5. Finance and Controlling	○	○	○	○	○	○
6. Legal Affairs	○	○	○	○	○	○
7. Project Management	○	○	○	○	○	○
8. Research and Development	○	○	○	○	○	○

4.4.2 FUNCTIONAL AUTONOMY

Definition 4.2: **Functional Autonomy** "*reflects the extent to which corporate ventures rely on functional experts that are provided externally from the corporation or elsewhere, with respect to the eight business functions (1) marketing, (2) human resource development, (3) sales, (4) service, (5) finance and controlling, (6) legal affairs, (7) project management and (8) research and development" (cf. Crockett et al., 2013).*

The scale for measuring functional autonomy is also adapted from Crocket et al. (2007). The original measurement scale is adapted in such a way that participants are asked to indicate whether expertise in each of the eight business functions (highlighted in 4.4.1) is available in the corporate venture team or provided externally through the parent company or elsewhere. Therefore, a 6-point Likert scale is used. A score of 1 indicates that expertise is primarily provided externally and a score of 6 indicates that expertise is primarily available within the corporate venture team. The measurement scale is presented in Table 4.2. We adapted the measurement scale as we did in Subsection 4.4.1 with the same reasoning mentioned in 4.4.1.

Table 4.2: Functional Autonomy Measurement Scale adapted from Crockett et al. (2007)

Functional Autonomy adapted from Crockett et al. (2007)						
Participants are asked whether expertise with respect to the following business functions is available within the team or provided externally.						
	Expertise is primarily provided externally 1	2	3	4	5	Expertise is primarily available in the team 6
1. Marketing	○	○	○	○	○	○
2. Human Resource Development	○	○	○	○	○	○
3. Sales	○	○	○	○	○	○
4. Service	○	○	○	○	○	○
5. Finance and Controlling	○	○	○	○	○	○
6. Legal Affairs	○	○	○	○	○	○
7. Project Management	○	○	○	○	○	○
8. Research and Development	○	○	○	○	○	○

4.4.3 DECISION AUTONOMY

Definition 4.3: **Decision Autonomy** "*is the authority of the venture manager to make decision concerning the eight business functions (1) marketing, (2) human resource development, (3) sales, (4) service, (5) finance and controlling, (6) legal affairs, (7) project management and (8) research and development" (cf. Crockett et al., 2013).*

The scale for measuring decision autonomy is also adapted from Crocket et al. (2007). The measurement scale indicates how frequently the venture manager relies on the approval of corporate management when making decisions in each of the eight business functions (highlighted in 4.4.1 and 4.4.2) on a 6-point Likert scale. A score of 1 means that approval through corporate management is almost always required and a score of 6 means that approval through corporate management is almost never required. Similar measures are applied previously in numerous studies (see, e.g., Hill & Hlavacek, 1972; Hedlund, 1979; Birkinshaw, 1997; Birkinshaw & Hood, 1998; Edwards et al., 2002; Manolopoulos, 2006; Crockett et al., 2007). Table 4.3 presents the

measurement scale. We adapted the measurement scale as we did in the Subsections 4.4.1and 4.4.2 with the same reasoning given in 4.4.1

Table 4.3: Decision Autonomy Measurement Scale adapted from Crockett et al. (2007)

Decision Autonomy adapted from Crockett et al. (2007)						
Participants are asked to indicate how frequently they need to seek the approval of their corporate supervisor(s) when making decisions in the following business functions.						
	Approval though my supervisor is almost always necessary					Approval though my supervisor is almost never necessary
	1	2	3	4	5	6
1. Marketing	○	○	○	○	○	○
2. Human Resource Development	○	○	○	○	○	○
3. Sales	○	○	○	○	○	○
4. Service	○	○	○	○	○	○
5. Finance and Controlling	○	○	○	○	○	○
6. Legal Affairs	○	○	○	○	○	○
7. Project Management	○	○	○	○	○	○
8. Research and Development	○	○	○	○	○	○

4.4.4 STRATEGIC AUTONOMY

Definition 4.4: **Strategic Autonomy** "*is the authority of the venture manager to make strategic decisions without approval" (cf. Andersen, 2004).*

The measurement scale of strategic autonomy builds on the construct developed by Aiken and Hage (1967; 1971) for measuring centralization. Andersen (2004) modified the scale by considering strategic issues such as "market activities, product and service developments, change in practices and policies" (Miller, 1987). For the context of corporate ventures, these strategic issues are adapted, considering the following six strategic decisions: research and development initiatives, new products and services, qualification of employees for future projects, new market segments, new customer segments and new business practices. Thus, the strategic issues highlighted by Miller (1987) are applied and enlarged through the qualification of the employees.

The six items to measure strategic autonomy are operationalized on a 6-point Likert scale. A score of 1 means that the venture manager almost never makes strategic decisions without the approval of corporate management whereas 6 means that the venture manager makes almost always strategic decisions without approval. The measurement scale is listed in the Table 4.4.

Table 4.4: Strategic Autonomy Measurement Scale adapted from Andersen (2004)

Strategic Autonomy adapted from Andersen (2004)						
Participants are asked how frequently they make decisions concerning the development of the new business without the approval of their corporate supervisor(s).						
	Is almost never true 1	2	3	4	5	Is almost always true 6
1. I can start research and development activities without the approval of my supervisor(s)	○	○	○	○	○	○
2. I am able to develop new products and services without the approval of my supervisor(s)	○	○	○	○	○	○
3. I can qualify employees for new projects without the approval of my supervisor(s)	○	○	○	○	○	○
4. I can decide without the approval of my supervisor(s) in which market segments future activities are conducted	○	○	○	○	○	○
5. I can decide without the approval of my supervisor(s) which customer segments are targeted in the future	○	○	○	○	○	○
6. I can introduce new policies and practices without the approval of my supervisor(s)	○	○	○	○	○	○

4.4.5 JOB AUTONOMY

Definition 4.5: **Job Autonomy** "*is the authority of the venture manager to make work-mode decisions without approval" (cf. Breaugh, 1985).*

The measurement scale for job autonomy builds on the work by Breaugh (1985), which highlights three major aspects that one enjoys in a job (Breaugh, 1985, 1999). The aspects are method autonomy ("the degree of discretion/choice individuals have regarding the procedures/methods

they utilize in going about their work"), scheduling autonomy ("the extent to which individuals feel they can control the scheduling/sequencing/timing of their work activities") and criteria autonomy ("the degree to which individuals have the ability to modify or choose the criteria used for evaluating their performance"). The three aspects are reflected in the seven-item measure given by Breaugh (1985). The measure indicates to what extent the venture manager is authorized to make decisions considering work procedures/methods, scheduling/sequencing/timing and the key performance indicators of his team, without approval. Participants are therefore asked to indicate how frequently the venture manager may act without the approval of corporate management concerning the identified aspects, on a 6-point Likert scale. A score of 1 means that approval is almost always required and a score of 6 means that approval is almost never required. The measurement scale is listed in Table 4.5.

Table 4.5: Job Autonomy Measurement Scale adapted from Breaugh (1985)

Job Autonomy adapted from Breaugh (1985)						
Participants are asked how autonomous from their corporate supervisor(s) they can act to develop the new business.						
	Is almost never true 1	2	3	4	5	Is almost always true 6
1. I can decide how to go about getting a job done without the approval of my supervisor(s)	○	○	○	○	○	○
2. I choose the way the team goes about a job without the approval of my supervisor(s)	○	○	○	○	○	○
3. I decide how the team reaches its goals without the approval of my supervisor(s)	○	○	○	○	○	○
4. I can schedule the work of the team without the approval of my supervisor(s)	○	○	○	○	○	○
5. I decide without the approval of my supervisor(s) when the team conducts particular work activities	○	○	○	○	○	○
6. My job allows to modify the way work is evaluated, so I can emphasize some aspects of the work and play down others	○	○	○	○	○	○
7. I have control over what the team is supposed to accomplish	○	○	○	○	○	○

4.4.6 CORPORATE VENTURE SUCCESS

Definition 4.6: **Corporate Venture Success** "*reflects the extent to which corporate management is satisfied with performance of the corporate venture" (cf. Venkatraman & Ramanujam, 1986; Brush & Vanderwerf, 1992).*

A subjective measurement scale is chosen for measuring the success of corporate ventures. This choice is made as financial performance measures (that are applied typically when businesses are established) are inadequate for new businesses. Particularly at an early stage when the new business is founded, turnover may not be the primary aim. Furthermore, profitability would be inadequate because the business did not have sufficient time to reach break-even. Subjective performance measures are therefore applied generally to measure the success of new businesses (cf. Dess & Robinson, 2006). Subjective performance measures enable one to distinguish the perception of managers (cf. Bantel, 1998) as well as their satisfaction with the performance of an organization (cf. Covin, Slevin, & Covin, 1990). Two performance issues are chosen, namely (a) perceived financial performance and (b) overall satisfaction. The measures for perceived financial performance refer to (1) satisfaction with turnover, (2) satisfaction with the time in which break-even is reached as well as (3) satisfaction with the increase of the sales margin. Overall satisfaction refers to (4) general meeting of expectations, (5) overall success of the new business, (6) achievement of milestones as well as (7) achievement of defined performance criteria. Participants are asked to indicate to what extent corporate management agrees with each of the seven items on a 6-point Likert scale. A score of 1 indicates total disagreement and a score of 6 means that corporate management agrees fully. Table 4.6 below shows the measurement scales.

Table 4.6: Corporate Venture Success Measurement Scale adapted from Brush & Vanderwerf (1992) and Venkatraman & Ramanujam (1986)

Corporate venture success adapted from Brush & Vanderwerf (1992) and Venkatraman & Ramanujam (1986)						
Participants are asked to assess the extent to what the following aspects concerning the development of the new business are true.						
	Is not true					Is true
	1	2	3	4	5	6
1. Corporate management is satisfied with the turnover that our team achieves	○	○	○	○	○	○
2. Corporate management is satisfied with the time that our team has reached (or will reach) break-even	○	○	○	○	○	○
3. Corporate management is satisfied with the sales margins that our team achieves	○	○	○	○	○	○
4. Our team generally fulfills the expectations of the corporate management	○	○	○	○	○	○
5. Overall corporate management perceives the development of the new business as being successful	○	○	○	○	○	○
6. Corporate management finds that our team fulfills the planned milestones as scheduled						
7. Corporate management finds that our team performs well according to the defined key performance indicators (KPIs)	○	○	○	○	○	○

4.5 CHAPTER CONCLUSION

The chapter provides a partial answer to *RQ2: How can the autonomy dimensions identified by RQ1 be operationalized in a construct that enables us to measure the autonomy of venture managers?* A theoretical model is developed that associates the four autonomy dimensions, namely, functional autonomy, decision autonomy, job autonomy and strategic autonomy with corporate venture success (see Figure 4.7). The model is subsequently operationalized, which provides an initial multidimensional construct that enables us to measure the autonomy of venture managers at various degrees and dimensions. The validity and reliability of the initial autonomy construct are evaluated statistically in Chapter 5.