Service-based differentiation strategies for business incubators: Exploring external and internal alignment

Johanna Vanderstraeten a,*, Paul Matthyssens a,b

a Department of Business Management, University of Antwerp, Prinsstraat 13, 2000 Antwerp, Belgium
b Antwerp Management School, Antwerp, Belgium

ABSTRACT

Strategic positioning and fit theories may inform the service-based differentiation strategies that incubators use to secure external and internal alignment. External alignment relates to tenant service expectations and perceptions; internal alignment involves a competence configuration for each strategy alternative. By implementing the proposed framework, an incubator can achieve service differentiation and ultimately enhanced customer (tenant) value. Qualitative research among nonprofit economic development incubators reveals two service-based differentiation positions: specialists and generalists. Whereas extant research advocates only a specialist stance, the present analysis confirms that service-based differentiation can result from a generalist stance. This study offers the first typology of service-based differentiation strategies for incubators that aligns strategy with external and internal variables.

1. Introduction

In the business incubation industry, various challenges constantly force incubators to adopt unique differentiation tactics. First, incubators offer office space, a pool of shared support services, professional business support or advice, and internal/external network provision to start-up firms (Berkeg and Norman, 2008; Hackett and Dilts, 2004). However, they are not the only organizations active in the incubation industry, and many players offer overlapping services (Becker and Gassmann, 2006; Von Zedtwitz, 2003). In general, five main actors participate in the incubation market: business incubators, logistic infrastructure providers, nonprofit advice organizations, for-profit advice organizations, and finance providers (Becker and Gassmann, 2006; Von Zedtwitz, 2003). Logistic infrastructure providers also have working spaces, event spaces, workshop rooms, or creativity rooms (e.g., The Hub, 2011) and advice organizations such as chambers of commerce organize seminars, information sessions, and financing programs for start-up firms. Thus, “business incubator” has become an umbrella term that refers to various initiatives designed to support start-ups (Aernoudt, 2004).

Second, the number of incubators also has grown (Bruneel et al., 2012). The National Business Incubation Association estimates that between 1998 and 2006, the number of North American incubators almost doubled to approximately 1400 (Knopp, 2007), and developing and emerging countries showed similar growth. For example, Anprotec (2006) estimates that in 2006, Brazil featured 377 incubators, compared to two in 1988. The United Kingdom Business Incubation organization (UKBI, 2011) also reports about 300 incubators there, compared with 10 years ago, when there were only 144 (European Commission, 2002).

These changes in the incubation market have prompted scholars to devote more attention to how incubators can strategically position themselves (e.g., Chan and Lau, 2005; Grimaldi and Grandi, 2005; Schwartz and Hornych, 2008), especially as start-up entrepreneurs seek complementary assets (Wright et al., 2008) and technological, cognitive, or vision proximity (Cantù, 2010) within a geographical region (Pe’er et al., 2008), which likely hosts several incubators. Butz and Goodstein (1996) argue that organizations can attain differentiation and a competitive advantage by creating customer value, which demands in-depth knowledge about customer expectations. This approach reflects (Priem’s, 2007, p. 220) encouragement to “learn much about successful strategy through a long-ignored consumer lens on value creation.” In the incubator context, Bruneel et al. (2012) confirm that incubator value propositions must reflect an in-depth understanding of tenant viewpoints. Therefore, we aim to investigate incubator differentiation possibilities, through the function of customer value creation, by answering: how can business incubators, located in the same region, differentiate themselves in the incubation market through customer value creation?

Beyond the general need for differentiation, strategic fit scholars stress the importance of external and internal alignment
(Venkatraman, 1989; Venkatraman and Prescott, 1990) as a means to attain performance benefits (Naman and Slevin, 1993; Yamakawa et al., 2011). Organizations that undertake a strategic change or repositioning need profound knowledge of both external market and internal organizational factors to ensure strategic fit. Insights into customer needs, organizational capabilities (Brax and Jonsson, 2009), value chain/network partners (Cova and Salle, 2008), and the link between organizational strategy and resources (Newbert et al., 2007) are all critical, which leads us to investigate as well: how can incubators ensure external and internal alignment for any differentiation alternative?

These research questions are rooted in strategy literature, where strategy scholars advocate the importance of competitive positions (e.g., Gavetti and Rivkin, 2007; Porter, 1980, 1996, 1998; Wen and Chen, 2011). In particular, academics in the positioning school (e.g., Alipour et al., 2010; Ng et al., 2005; Yamin et al., 1999) assert that strategy formulation requires examining the organization’s competitive scope and advantage (Mintzberg, 1988) to determine where (competitive scope) and how (competitive advantage) the organization can compete (Juga et al., 2008). Li and Tsai (2009) explain that research on sustained competitive advantages mainly draws on two theories. Industrial organization theory focuses on strategic market positions and has an external viewpoint, whereas the resource-based view (RBV) starts with an organization’s internal resources and capabilities and argues that access to valuable, rare, inimitable, and non-substitutable resources leads to a competitive advantage (Barney, 1991; Chiu et al., 2008; Newbert, 2008). Newbert et al. (2008) also link the RBV to a dynamic capabilities approach and show that both the possession and exploitation of resources through an optimal use of capabilities are necessary to attain competitive advantages. Although strategy scholars thus argue that an organization should try to find a position that gives it a unique competitive advantage (Kalafatis et al., 2000), increased competition and imitation by competitors almost invariably erode differentiation bases and hamper organizational success (Hitt et al., 2007). Organizations must continually find new ways to differentiate themselves (e.g., Cho et al., 1996; Smith and Sharif, 2007).

To address the research questions, we conducted an in-depth qualitative study with an embedded research design (Yin, 1990), in which we account for tenant viewpoints, expert and incubator manager opinions on tenant value creation options (Bruneel et al., 2012; Butz and Goodstein, 1996; Huber et al., 2001), and implementation issues, such as the necessary skills, resources, processes, and systems (Bharadwaj et al., 1993; Matthyssens et al., 2009).

Accordingly, in the next section, we examine strategic positioning and fit theories to establish our theoretical background. We then explain the methodology for our empirical research before we present and explain our results, particularly in relation to extant literature. Finally, we discuss our main contributions and results, research limitations, and some possible avenues for further research.

2. Theoretical background

2.1. Strategic positioning theory

According to positioning scholars (e.g., Ibrahim and Gill, 2005; Lawton, 1999; Wen and Chen, 2011), an organization’s competitive scope and competitive advantage determine its competitive position. To recognize competitive advantage possibilities in a specific industry, the firm must have insights into the critical success factors that prevail in that industry (e.g., Barbiroli and Focacci, 2003; Sharma, 2003), an analysis that must refer to the strategic group level (Aaker, 2008). Because strategic groups arise from the same generic strategy (Johnson et al., 2011), the competitive scope dimension then provides the basis for such an analysis. Varadarajan (1985) suggests subdividing critical success factors into “failure preventers” and “success producers”: The organization must attain some threshold level of failure preventers, but substantial resources devoted to this area cannot lead to above-average performance. Instead, greater effort, compared with competitors, devoted to success producers might enable the firm to outperform its rivals and thus attain a competitive advantage.

Furthermore, a competitive advantage might accrue through customer value creation (Cooper, 2001; Woodruff, 1997). However, the customer value construct is very complex (Jaworski and Kohli, 1993; Khalifa, 2004; Naumann, 1995), which makes it difficult to measure accurately how customers determine the value of a particular product or service (Smith and Colgate, 2007). In this sense, it is pivotal for an organization to develop a deep understanding of what customers seek (O’Cass and Ngo, 2011) and thus the resources it needs to address customer expectations (Srivastava et al., 2001). Prior research has integrated the intuitive viewpoints (Bowman and Ambrosini, 2007) of various industry players, including executives, external experts, and customers, to determine customer value creation possibilities and the potential success that can be attained through such options (e.g., Ibrahim and Gill, 2005; Lawton, 1999; Matthyssens et al., 2009).

Research into incubators suggests that sector choices and fields of related technologies define an incubator’s competitive scope (Aernoudt, 2004; Grimaldi and Grandi, 2005; Haapasalo and Ekholm, 2004; Plosila and Allen, 1985; Sherman, 1999; Von Zedtwitz, 2003; Von Zedtwitz and Grimaldi, 2006). The consensus seems to indicate that incubators opt for either a focused or a diversified scope (Plosila and Allen, 1985; Sherman and Chappell, 1998). Focused incubators only allow entry to companies active in a specific sector or technology field: diversified incubators include tenants from a wide variety of areas. Yet other literature shows that incubators can differentiate themselves and attain competitive advantages in various ways, such as from their unique location (Hu et al., 2005) or their provision of a manager who devotes extensive time to tenants (Rice, 2002). These customer value creation and incubator differentiation possibilities reflect the added value of the incubator’s service offering, “such as shared rental space, shared office services, business assistance [and] inside and outside networking.” (Mian, 1994, p. 523).

Despite some agreement that a service offering creates customer value, the perspectives on which types of services do so remain somewhat one-sided: incubators create value by offering industry- or technology-specific services (e.g., Bruneel et al., 2012; Schwartz and Hornyck, 2008), including not just sector or technology knowledge but also infrastructure and network connections. Schwartz and Hornyck (2008) note that the Mitteldeutsches Multimediazentrum Halle in Germany provides a wide variety of media-related services, featuring specialized infrastructure services, such as television, film, and audio studios with state-of-the-art equipment, as well as sector-specific business knowledge. Thus the services, applicable only to companies in one sector or technology field, create customer value that cannot be easily replicated by other players.

In contrast, real-world examples show that many incubators do not choose sector- or technology-specific services. The UK Rotherham Investment and Development Office (RiDo) business centers focus their competitive advantage and customer value creation efforts on the delivery of operational support services to US-based companies willing to invest in the United Kingdom (RiDo, 2011) and the Antwerp Business Center (2011) in Belgium differentiates itself by providing in-depth marketing research for companies active in a wide variety of sectors. That is, though the
availability of sector- or technology-related services adds value for tenants, they are not the only route to customer value.

2.2. Strategic fit: internal and external alignment

Generic strategies often work to link internal and/or external organizational variables to “ideal” strategies. This effort implies the assumption that fit among external, internal, and strategic variables leads to better performance (Naman and Slevin, 1993; Yamakawa et al., 2011). Heijtjes and van Witteloostuijn (2003) distinguish three fit perspectives: formulation, implementation, and integration. A formulation perspective refers to the organization’s industry structure, such that strategy efficacy depends on the match between the organization’s strategy and its industry structure (e.g., Ceci and Masini, 2011). This viewpoint relates closely to the industrial organization view, which connects external factors to an organization’s strategy (Li and Tsai, 2009). The implementation perspective instead centers on the relationship between an organization’s internal aspects and its strategy (e.g., Newbert et al., 2007; Xu et al., 2006), which reflects the RBV and the strategic importance of internal resources, capabilities, and competences (Barney, 1991; Li and Tsai, 2009; Newbert, 2008) as the roots of systematic competitive advantages (Banerjee, 2003; Prahalad and Hamel, 1990). Finally, the integration perspective combines the former two approaches to focus on the relationship among an organization’s strategy, structure, and environment (e.g., Beer et al., 2005). This latter perspective has not, to the best of our knowledge, been applied previously in incubator literature.

In contrast, the formulation perspective considers the relationship between an incubator’s stakeholders and its strategy. For example, Sofouli and Vonortas (2007) relate Greece’s external policy context to the (strategic) objectives of its science parks and incubators. Although incubators have a wide variety of stakeholders (McAdam and Keogh, 2006; Mian, 1997), the viewpoint of their tenants tends to be prioritized (Jungman et al., 2004), such as when Abduh et al. (2007) examine tenant service satisfaction and McAdam and Marlow (2007) consider the (dis)advantages of services offered to tenants. Bruneel et al. (2012) also propose that an incubator’s value proposition (and strategy) should be evaluated by its tenants. We accordingly consider tenant service expectations as a measure of external fit.

With regard to internal fit from the implementation perspective, Von Zedtwitz (2003) lists good incubator management practices and links each of them to an incubator strategy; Allen and McCluskey (1990) argue that the incubator’s value position determines its resource offering. Clarysse et al. (2005) adopt the RBV and link research institution incubation strategies to resource implications, whereas Von Zedtwitz and Grimaldi (2006) use it to investigate the relationship between incubator strategies and service characteristics. Yet despite these efforts to link strategy to internal aspects, Hackett and Dilts (2008) conclude that an incubator’s internal functioning remains a black box, without any comprehensive, systematic connection between internal aspects and strategy. Their extensive literature review allows them to propose three dimensions of an incubator’s internal functions: selection, resource munificence, and monitoring and business assistance. During the selection process, the business incubator accounts for the start-up’s market, financial, and team characteristics (Aerts et al., 2007). Resource munificence refers to internal networking and incubator resource utilization, including whether tenants use the services provided. Finally, monitoring and business assistance involves strategic management and the incubator’s monitoring comprehensiveness and quality. We use all three dimensions to examine an incubator’s internal functioning in relation to its strategy, including all relevant processes, systems, assets, knowledge, capabilities, and cultures (Matthyssens et al., 2009). Miles and Snow (2003) and Kaplan and Norton (2008) have established the importance of adequate processes, systems, and organizational factors; Barney and Clark (2007) do the same for assets, knowledge, and capabilities.

3. Methodology

Our empirical study draws on extensive qualitative research, which is often required when the research domain is broad and complex and the context is important (Dul and Hak, 2008; Yin, 1990). Eisenhardt and Graebner (2007) also find it particularly useful in new research areas or situations in which researchers know little about the phenomenon. Thus, it is typically used to address “how” and “why” questions (Eisenhardt and Graebner, 2007; Yin, 1990); both our research questions (see the introduction section) represent “how” questions—that is, how incubators differentiate themselves while also ensuring internal and external alignment with their differentiation strategy. Thus, qualitative research is highly appropriate for addressing the complex topics we consider (Bryman and Bell, 2007; Eisenhardt, 1989; Yin, 1990).

Between June 2009 and February 2010, we conducted 9 in-depth interviews with incubator managers, 30 in-depth interviews with tenants, 3 focus groups with incubator managers and experts, and then a final presentation and discussion meeting with incubator managers and experts. We briefly discuss this population, before we explain our research design and data collection process.

3.1. Population

Specifying the population under investigation “is crucial, because the population defines the set of entities from which the research sample is to be drawn” (Eisenhardt, 1989, p. 537). This helps to lower extraneous variation and increase external validity. For this study, we assert that customer value creation demands a good understanding of the needs and expectations of customers (O’Cass and Ngo, 2011), namely, of the tenants who consider incubator value propositions (Bruneel et al., 2012). Therefore, we must investigate incubator tenant service expectations. In turn, we compare these customer viewpoints with manager and expert experiences, to gain insights into differentiation possibilities (see also Ibrahim and Gill, 2005; Lawton, 1999). Moreover, the incubator managers and experts offer information about the internal functioning of an incubator, such as its processes, systems, resources, and capabilities, in reference to tenant expectations on implementation issues (e.g., Mian, 1996; Rice, 2002).

Across the varied objectives for incubators (e.g., economic development, research commercialization, integration of social classes; Aernoudt, 2004; Von Zedtwitz, 2003), we chose to focus on nonprofit economic development incubators, because worldwide, most incubators match this profile (Bruneel et al., 2012; Knopp, 2007). This focus also aligns our study with previous research (e.g., Grimaldi and Grandi, 2005; Von Zedtwitz, 2003) and acknowledges that the profit decision is one of the most important strategic choices an incubator makes, so combining insights from both for-profit and nonprofit incubators might bias the data. We choose economic development incubators specifically, in line with Ratinho and Henriques’s (2010) assertion that business incubators are mostly linked to economic development.

Most economic development incubators also focus on local development, which represents our second selection criterion. We sought areas with a relatively large number of incubators in a relatively small space; ultimately, we targeted Belgium, a small country (30,530 km²) located in the economic and political center of Europe. Across its three economically and culturally distinct
regions—Flanders, Wallonia, and Brussels—Belgium hosted 68 incubators at the time of our study: 9 in Brussels, 13 in Wallonia, and 56 in Flanders. Flanders in turn comprises five provinces: Antwerp (16 incubators), East-Flanders (11), West-Flanders (9), Limburg (10), and Flemish-Brabant (10). Because Antwerp has the most incubators, we chose this province for our empirical research. In Antwerp, nine of the sixteen incubators were nonprofit economic development incubators that worked closely together with the Development Authority of the province. By working with business incubators, this local government organization aims to stimulate economic development in the region (POM Antwerp, 2012). Economic development is an important strategic objective for all nine incubators, so we included them all in the empirical analysis. These nine incubators are located within a 60 km radius; distances less than 80 km are considered geographically close (De Silva and McComb, 2012). Thus, the province of Antwerp offers an appropriate research location.

The sample characteristics in Table A1 further reveal that five of the nine incubators can be categorized as mixed-use, such that they did not focus on a particular sector or technology field, whereas four adopted a focus strategy. Specifically, Incubator D focused on the building sector and included sustainable building start-ups; E featured companies active in the creative sector (e.g., architects, designers); G focused on companies in the energy and environmental technology field; and I attracted high-tech companies with a focus on life sciences and information and communication technologies.

To avoid the potential for bias that would occur if we incorporated the viewpoints of only one type of tenant (Mian, 1996), our tenant sample represents the total tenant population. Although incubators are designed to stimulate small start-up companies (Bergek and Norrman, 2008) and generally support companies for three to five years (European Commission, 2002), tenants in our target population represent a wide variety of ages (1–35 years), sizes (1–45 full-time employees), and incubation periods (1–18 years). Furthermore, the combination of mixed-use and focused incubators led to a sample of tenants engaged in a wide variety of activities (e.g., air transport, communications, catering). This diversity (see Table A2) enabled us to gather rich data while avoiding a bias associated with the opinions of only one type of tenants.

3.2. Research design, data gathering process, and study quality

Mathison (1988), p. 13 explains that “good research practice obligates the researcher to triangulate, that is, to use multiple methods, data sources and researchers, to enhance the validity of research findings,” which in turn improves reliability and validity (Bryman and Bell, 2007; Eisenhardt and Graebner, 2007; Ghauri, 2004; Pratt, 2009). We pursued these benefits in three main ways. First, to achieve data triangulation, we gathered primary data from multiple respondent groups (incubator managers, tenant managers, and experts) and secondary data from various sources, such as websites (of incubators, tenants, incubator partners, and coordinating organizations), internal incubator documents, internal documents from the Development Authority, and incubator and tenant brochures. Second, we attained method triangulation by employing different qualitative research methods. Specifically, we executed in-depth interviews, focus groups, and presentations with open discussions while also analyzing secondary data. Third, to ensure researcher triangulation and minimize researcher bias (Bollingtoft, 2007), the team of three researchers engaged in regular team meetings (Eisenhardt, 1989). We divided the research tasks as follows: two researchers conducted the data collection and analysis, and a third played a reviewing, consulting, and guidance role. The third researcher also took the lead in the focus groups.

To confirm our interpretations, we used member checks (Danneels, 2002), such that we confirmed our intermediary interpretations at several moments throughout the data collection and analysis processes (Hirschman, 1986; Lincoln and Guba, 1985). The incubator managers and external incubator experts who participated in the focus groups, in-depth interviews, and final presentation served as our research auditors. In member checks, we asked the interviewees for approval of our summaries of the in-depth interviews. We also organized focus groups and formal presentation moments to present and discuss the (intermediary) results.

3.2.1. In-depth interviews

For the in-depth interviews with incubator managers, two members of the research team participated: The first interviewer conducted the interview, and the second took field notes (Eisenhardt, 1989) and confirmed that all questions had been asked. The semi-structured interview protocol focused on the incubator’s strategy, its service offering, its internal organization, and external influences. We recorded and transcribed all interviews, then sent the summary to the interviewees, who could make comments. If necessary, we clarified any uncertainties through telephone or e-mail conversations.

The tenant interviews were similarly organized, except that for most of these interviews, only one interviewer was present. To ensure consistency, the interviewer who conducted the interviews with the incubator managers also conducted the tenant interviews. These interviews focused on the incubator’s strategy, service offering, internal organization, and external influences. We also pursued a deeper understanding of the service offering by asking tenants which services they found valuable, rare, inimitable, and not easily substitutable (Barney, 1991)—that is, which services led to customer value creation. By checking the tenants’ viewpoints against those of the incubator managers and experts, we discerned the incubator’s competitive advantage and differentiation possibilities.

3.2.2. Focus groups

We conducted three focus groups with incubator managers and experts. Combining focus groups and individual interviews can be valuable, because this combination offers both depth (interviews) and breadth (focus groups); according to Morgan (1996), if the in-depth interviews take place first, the focus group can serve as a check on the conclusions of the interview analysis. If in-depth interviews occur after focus groups, the specific opinions and experiences that emerged from the focus group can be examined in-depth (Morgan, 1996). To attain both advantages, we conducted the focus groups both before and after the in-depth interviews.

Overall, nine incubator managers and five external experts participated in the focus groups. The incubator managers also had been interviewed, so we could corroborate and deepen the observations. Because our study sample consists of nonprofit economic development incubators, we also invited experts from nonprofit government agencies to participate in the focus groups. We took great care in addressing sampling, moderator involvement, and group size issues. First, with regard to sampling issues, we undertook a careful segmentation of focus groups to create relatively homogenous groups (Krueger, 1988; Morgan, 1988). The first focus group included incubator managers, the second external experts, and the third combined their viewpoints. Thus in the first focus group, we discussed the incubator context and factors that might influence its strategy. During the second focus group, we presented the intermediary results and investigated the external context more closely. Finally, the last focus group featured a...
Second, moderator involvement refers to (1) asking questions and (2) managing group dynamics. Despite a lack of consensus about the number of questions a moderator should ask, Morgan (1996) stresses that the research goal determines how structured a focus group should be and how many questions the moderator should ask. With our clear research goal and pursuit of knowledge about service-based differentiation strategies and their necessary organizational elements, we followed a specific outline during the focus groups. Thus we discouraged participants from diverging into topics with less relevance for this research. To manage group dynamics, the moderator must find some way to ensure everyone has an equal opportunity to participate, such that the opinions of both quiet and dominant participants enter the analysis. Therefore, the moderator carefully posed questions to prompt all participants to participate in the discussion. For example, from time to time, he asked each participant to provide his or her individual opinion about the discussion topics.

Third, Morgan (1996) states that both smaller and larger groups have advantages: In smaller groups, each participant can discuss his or her opinions and experiences, but larger groups bring together a wider variety of viewpoints. Thus, we kept the first two focus groups rather small, with five and six participants, to enable in-depth discussions, then in the third focus group, we included eleven participants. This larger group matched the goal of this focus group, namely, to combine the viewpoints of both incubator managers and external experts.

4. Empirical results

In presenting the findings from our empirical study, we start with tenant expectations about the incubator’s competitive scope and service offering, which we compare with the incubator manager and expert experiences and differentiation possibilities. Then we present how each service-based strategic position can be implemented in practice, including the necessary processes, systems, assets, knowledge, capabilities, and culture.

4.1. Customer value creation leading to incubator differentiation

We discern two opposite opinions regarding the preferred incubator scope. Some tenants seek complementary activities and opt for an incubator with diverse tenants and no specific sector or technology focus. For example Company F2 was “pro collaboration…. I would find it fantastic if I knew what this or that company can do…. I would really like to have an IT company in the incubator. If you have a problem, they are nearby. Now, I have to shop around to find an appropriate solution and that annoys me.” Company F3 offered another reason to prefer diversity: “we are all little companies. Let us be diversified. I would definitely not choose a business incubator that focuses on a specific sector.” This same interviewee worried that “there are people who take their publicity issues to other companies [outside the incubator] because they don’t even know there is somebody in the incubator that creates publicity. I think it is important to stimulate cross-selling and keep business between the four walls [of the incubator].”

But not all tenants opted for this diversified focus. The group that assigned greater importance to a focused scope tended to be active in fields with relatively few other players, so collaboration with them was critical. They hoped to be able to use the incubator’s image and network to enter or grow in that sector or technology field; Company G1 specifically stressed the importance of image and credibility: “if an incubator focused on companies employing the same technology we use, I would choose that incubator. That is much easier to identify yourself.”

In the audiovisual sector, Company H1 recognized that “if another company making documentaries was located here, it would be very valuable,” an opinion based on this interviewee’s broader industry experience: “I just became chairman of a coordinating organization of companies in the documentary sector and I see that we are definitely in need of such contacts.”

Thus we find a clear dichotomy in the type of incubator scope tenants want, and the incubator managers and experts confirm this finding. Both diversified and focused incubators can create customer value through their service offerings, but which services create customer value depends on the incubator’s competitive scope. Tenants opt for incubators with a diversified scope when they seek collaboration in their operational business activities or need partners with complementary competencies. The tenants in this group obtain access to on-site, in-depth services, such as secretarial functions (e.g., taking minutes, filing documents), business advice, and personal network connections that they would otherwise have difficulty finding. These services help start-ups considerably during their development process. Incubator managers and experts agree that such services create substantial customer value and might provide a basis for incubator differentiation. Thus, these services represent success producers for incubators with a diversified scope (see Table 1).

In contrast, basic secretarial functions such as organizing the post or logistic equipment such as a meeting room, and non-personal lists of operational business advice partners are services that tenants expect to receive from all diversified incubators. Tenants do not consider them rare; instead, they appear part of the basic service offering by each diversified incubator. Tenants think they could easily switch to another diversified incubator to receive similar support. According to the incubator managers and experts, a decade ago these basic services might have led to differentiation, but today, all diversified incubators offer them. Thus these services represent failure preventers for diversified incubators (see Table 1).

Some tenants prefer to be co-located with other companies active in the same sector or that employ related technologies, because this focused scope supports core business network opportunities. They want to use the incubator’s sector/technology image and credibility as a foundation for their own development, often through core business-related partnerships. They still expect basic services from their incubators, in that their expectations include sector- or technology-specific infrastructure and a contact list of organizations active in their core business that might be interested in forming partnerships with small firms. The tenants we interviewed perceived that other specialists could offer these services too, such that they could easily find another focused incubator with a similar offering. Incubator managers and experts concur that a lack of such basic infrastructure and networking services would result in incubator failure. However, focused incubators also can create high levels of customer value by offering on-site in-depth business support related to the tenants’ core business, which tenants consider difficult and expensive to find elsewhere. They also value the availability of personal network connections with other organizations active in their core business, because it can be difficult for a new, unknown company to establish good contacts with a well-known organization. Personal introductions are often necessary. Similarly, the incubator managers and experts explicitly mentioned on-site core business and personal network contacts as a basis for incubator differentiation. The overview of tenant expectations of service offerings
by focused incubators in Table 2 consists of both incubator failure preventing and success producing services.

These results suggest two service-based differentiation alternatives: generalist and specialist stances. The Development Authority has an important saying in the incubator’s positioning. With Fig. 1, we classify target clients of a generalist incubator as start-up companies that are active in a wide variety of sectors or technologies. Thus, the generalist incubator’s strategic intent is to offer on-site, in-depth operational business activity services and personal contacts to start-up firms active in a wide variety of sectors or technologies. If they provide these services, they can differentiate themselves from other generalists. For example, one of the generalists in our sample employs an incubator manager who previously worked for a large, nonprofit advice organization and thus can suggest personal network connections related to tenants’ operational business activities. Other generalists do not offer incubator managers with similar personal networks, so the focal incubator can achieve differentiation.

In contrast, the target clients of specialist incubators are start-up companies that are active in a particular sector or technology field, so their strategic intent should be to offer on-site, in-depth sector- or technology-specific services and personal contacts to start-up firms active in a specific sector or field of related technologies. One of the specialist incubators in our sample maintained an on-site library with information about the sector. Thus tenants had easy access to on-site, in-depth sector knowledge, which they could not attain from other specialists. This gave this incubator a competitive advantage.

4.2. The identification of necessary competence configurations

To attain these strategic service-based positions, the incubators must achieve alignment between their internal organization and functions. The first internal incubation element, tenant selection, entails gearing a selection process to the incubator’s strategic intent. Both specialist and generalist incubator managers assert that they must select companies that appear likely to develop into successful businesses; the incubator experts confirm this aspect is part of the mission statement of economic development incubators. Therefore, incubator personnel need to develop experience with start-up firms, such as by attending business plan competitions, entrepreneurship seminars, and workshops. The difference between generalist and specialist incubators arises only because specialists focus on one sector or technology field and analyze whether the potential tenant is active in a relevant area and able to survive and grow in that particular market. Generalists focus more on financial, personal, or team aspects.

Because specialists and generalists likely target companies with different service expectations, they also should select companies on the basis of those expectations. Incubator managers and experts stress that specialists only select companies searching for co-location with companies active in the same sector or field. Their pool of potential tenants prioritizes sector- or technology-related business support above operational business support. Generalists’ selection process instead focuses on companies that value co-location with a wide diversity of sector or technology

| Table 1: Tenant expectations of service offerings (no sector/technology focus). |
|---------------------------------|-----------------|-----------------|-----------------|
| Administrative services         | Logistic services | Business support services | Networking |
| Incubator failure preventing services | A common secretary (e.g., receptions, telephone, postal delivery, welcoming visitors). | Basic equipment (e.g., flexible office space, internet connection, telephone line, photocopier). | In-depth business support services focusing on operational business activities. | Access to (high-quality) partners such as venture capitalists, bookkeepers, and lawyers. |
| Interview example               | Company A4: “When you are not there, they can take a message. It is also interesting that they manage your post, that the post does not get lost when you are not in the office. If we for example are expecting large postal packages, the postal office can deliver it at the reception.” | Company A2: “They [the incubator personnel] were very flexible. They adapted the incubator’s infrastructure for us.” | Company B2: “I am an occupational therapist, so I know a lot about human resources, but I can imagine that other people do not know how to handle human resources. For example, recruiting the first employee. We already had our accountants, but if a start-up company needs this kind of advice, then I expect that the incubator can give a list of the accountants in the neighborhood, with a little more information than just the accountant’s telephone number. They [the incubator] should be able to tell which accountants have experience with which kind of company, and who could do a good job.” |
| Incubator success producing services | In-depth secretarial services (e.g., taking minutes, filing documents, organizing agendas, organizing business trips). | No differentiation possible. | On-site operational business knowledge (e.g., bookkeeping). | Personal network connections related to the company’s support activities. |
| Interview example               | Company C4: “It would be very interesting if there would be more administrative support... Instead of hiring somebody, we would be interested in outsourcing a number of administrative tasks to them [the incubator].” | N/A | Company C2: “If the business incubator would offer general services such as human resource management, then we would definitely use it. Today, we have to search for this kind of knowledge elsewhere... It would be very interesting if this kind of services would be offered by the incubator itself, if the services would be ‘physically’ close. A little bit like in a big company, where you can go and talk with the accountancy or HR department.” |
|                                 | Company A1: “He [the incubator manager] knows many people with knowledge about support activities such as a lawyer. That is very interesting.” | | | |

offerings, because they seek operational, not core business, support. With regard to the second internal incubation element, resource munificence, we note internal networking and resource utilization among tenants, which generally requires regular contacts among incubator personnel and tenants. For example, the incubators might host introduction days for new tenants or regular meetings in which incubator personnel and tenants can discuss the services offered and used. These interactions also require specific competences and capabilities. For example, the incubator personnel needs to be friendly, with good interaction skills and trustworthiness. Tenants stressed that without trust, they would be afraid that their core business activities might be exposed to others if they shared their needs and problems with the incubator manager/staff. Incubator managers also stressed the importance of a "willingness-to-interact" attitude; it is difficult to organize activities if (some) tenants are not willing to engage. To encourage an open culture, the selection process often incorporated this attitude as a selection criterion. Finally, to offer viable interaction possibilities with external organizations, the specialist managers stressed the need for strong, active network partners in the relevant sector; generalist managers underlined the importance of close partners who could offer operational advice.

The third internal incubation element, monitoring and business assistance, refers to strategic management and the incubator's monitoring comprehensiveness and quality. Strategic management requires strategy-related knowledge and a strategic planning committee to follow up in a (long-term) development process. To provide comprehensive, high quality support, the incubator needs a control system that can verify whether the services offered are of sufficient quality and satisfy tenant needs. Regarding the latter criterion, the specialist managers highlight their focus on sector- or technology-related expectations, whereas generalist managers focus on operational business support needs. Comprehensive services often require a range of standard and adaptable (customized) service packages. For example, one generalist incubator manager explained that it provided Internet access to all tenants and then allowed tenants to choose a package of additional services, such as accounting or human resource support. The incubator managers and experts suggested that generalists encourage their employees to update their knowledge constantly, to ensure they can offer comprehensive operational business support. Employees of specialist incubators instead must remain up to date in their sector- or technology-related knowledge. Finally, involving (potential) tenants and experts in quality controls and checking for comprehensiveness provides valuable insights into tenants' service expectations, the offerings available in other incubators, and tenant satisfaction. In Tables 3 and 4, we depict the competence configurations for generalist and specialist incubators, respectively.

5. Discussion

Our empirical results relate to extant literature in several respects. We begin with tenant service expectations and incubator differentiation options, then discuss the necessary organizational components for each strategy alternative.

5.1. Customer value creation leading to incubator differentiation

Existing incubator classifications identify diversified and focused scopes (Plosila and Allen, 1985; Sherman, 1999; Von Zedtwitz, 2003; Von Zedtwitz and Grimaldi, 2006). We confirm this dichotomy. We also reaffirm the notion that tenants in a focused incubator aim to use that incubator's image or credibility to enter and grow in their sector or field. Ferguson and Olofsson, 2004; Studdard, 2006. However, our empirical analysis contradicts the common view

<table>
<thead>
<tr>
<th>Incubator role</th>
<th>Administrative services</th>
<th>Logistic services</th>
<th>Business support services</th>
<th>Networking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubator failure preventing services</td>
<td>A common secretary.</td>
<td>Basic equipment (e.g. office, conference room). Sector- or technology-specific infrastructure (e.g., incubators focusing on companies active in the information and communication technology sector, with state-of-the-art and reliable infrastructure such as a server room).</td>
<td>In-depth business support services focusing on a company's operational activities. Sector- or technology-specific, in-depth business support services. Network of partners for offering these services.</td>
<td>Access to possible partners active in the company's operational activities. Access to possible partners in the same sector or field (both inside [other tenants] and outside the incubator).</td>
</tr>
<tr>
<td>Incubator success producing services</td>
<td>No differentiation possible.</td>
<td>No differentiation possible.</td>
<td>On-site sector- or technology-specific in-depth business support services, such as knowledge centers.</td>
<td>Personal network connections related to the company's core business (e.g., funding organizations focusing on the company's core business).</td>
</tr>
<tr>
<td>Interview example</td>
<td>See Table 1</td>
<td>Company A4: &quot;If you are a hardware company, then you need more than the basic equipment. You need for example an antistatic floor. An incubator focusing on a particular sector should offer sector-specific infrastructure.&quot;</td>
<td>Company G2: &quot;We are located in this incubator because we work closely together with a large knowledge organization active in our field of related technologies. Being physically close to this knowledge organization is very important.&quot;</td>
<td>Company D1: &quot;I work together with all my competitors.... If somebody calls me and I have to deliver a large amount of products in a short time, I work together with my competitors. To be honest, I expected the incubator to have more tenants active in our sector.&quot;</td>
</tr>
<tr>
<td>Interview example</td>
<td>N/A</td>
<td>Company G1: &quot;If there would be an information intelligence center in our sector available which would be shared with many partners, I would definitely make use of it.&quot;</td>
<td>Company E2: &quot;Good networking contacts are invaluable. For example, it would be very interesting if the incubator manager could say that he/she has already done business with an organization in my sector. That way, he/she could introduce me to that organization.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
that network cooperation is more effective in focused incubators. That is, prior literature argues that to help tenants locate the right contacts in a complex network, the incubator must organize its network connections (Rice, 2002), which seemingly should be easier for focused incubators (Bruneel et al., 2012), such that stimulating cooperation opportunities and synergies may be more effective in an incubator with a focused scope (Haapasalo and Ekholm, 2004). But our analysis shows that networking can equally be effective within diversified incubators. Schwartz and Hornych (2010) also have recently provided evidence that networking is effective in both diversified and focused incubators. Prior research suggests that “the benefits of networking effectiveness achieved in focused incubators might arrive through diversified incubators.

Another contrast with previous research relates to the definition of the incubator’s scope. Prior research suggests that “the professional preferences or competences of incubator managers” determine the incubator’s scope (Von Zedtwitz, 2003, p. 181), because senior incubator managers offer key personal contacts, networks, and experiences that he or she can leverage through the incubator (Hannon and Chaplin, 2003). We find instead that the Development Authority had an important influence on the incubator’s focus. It was the driving force for a re-focus by one of the incubators in our study, which reflected a shift in company needs, not the incubator manager’s knowledge base. The Development Authority even asked this incubator manager to gain more in-depth knowledge in a sector in which the manager previously had no familiarity.

Although not a direct contrast, we also consider it surprising that few prior studies acknowledge how an incubator’s scope influences its service offering. Many studies fail to specify the incubator’s scope (e.g., Abduh et al., 2007; Tötterman and Sten, 2005) or simply mention technology incubators, without specifying whether they focus on one or several fields (e.g., Mian, 1996). Schwartz and Hornych (2008) instead delineate the advantages and disadvantages of incubators with a sector or technology focus, and our data partly confirm their findings, in that focused incubators can offer focused infrastructure, knowledge, and know-how. However, our data also suggest that in focused incubators, companies seek core business networking possibilities with other tenants, whereas Schwartz and Hornych (2008) conclude that a negative climate impedes internal networking in focused incubators. Further research should address this conflict; we posit that the difference might reflect the particular context of Schwartz and Hornych’s (2008) case study, in which incubator managers attached substantial value to the opinions of established, better known tenants when making strategic decisions. By excluding smaller, less established firms, the incubator might have created a negative working climate and poor internal cooperation. We did not encounter any comparable situations in the focused incubators studied.

Few existing studies make explicit distinctions between success producing and failure preventing services either. Our evaluation of tenant, manager, and expert viewpoints on customer value creation options adds some nuance by including the distinction between incubator failure preventing and success producing services. For example, prior studies offer evidence that basic office and administrative services, such as a flexible office space or postal delivery, save costs and time for tenants (Abduh et al., 2007). Furthermore, on-site, in-depth services, such as marketing advice from specialists (Hackett and Dilts, 2008; Heydebreck et al., 2000), university faculty expertise (Jalkaka, 2003), advice on financing their technology development (Heydebreck et al., 2000; Macdonald and Joseph, 2001), and access to personal contacts (Aaboen, 2009; Abduh et al., 2007) are important services for incubator tenants. However, in all these cases, it remains unclear which services actually create high levels of customer value and which not. Because this subdivision gets largely overlooked, even very recent studies argue that “business incubators do not differ greatly in terms of what they offer to tenants” (Bruneel et al., 2012, p. 115). Our results contradict this assertion. Although service groups (e.g., administrative, logistic, business support, networking) may be comparable across incubators, the interpretations of these service offerings differ notably. For example, some incubators offer on-site business support, while others opt for external coaches. Despite acknowledging such differences (e.g., Bruneel et al., 2012; Bergek and Normann, 2008), previous scholars have not considered the possibility that they provide a basis for incubator differentiation.

We uncovered one study that makes an explicit subdivision in the level of added value; our analysis contradicts its results. That is, Mian (1996) examines whether a service adds major, minor/moderate, or no value to tenants, and 20–50% of the respondents to that study report that administrative services (e.g., mail sorting, word processing) and basic logistic services (e.g., conference room) add major value. In contrast, we found that such basic administrative and logistic services do not create high customer value. Further research should investigate these differences, but we posit that a decade ago, such services created high value, whereas today, they are simply part of the basic service offering of an incubator and thus have transformed into failure preventers for the incubator. In the modern business world, business support and networking
services appear relatively more important than administrative and logistic services (Bergek and Norman, 2008).

Our more nuanced analysis of tenant service expectations and customer value creation options also reveals that, in contrast with the conventional wisdom (e.g., Bruneel et al., 2012; Schwartz and Hornych, 2008), focused incubators are not the only route to success. Rather, many tenants prefer generalist incubators, and customer value creation is possible through both specialists and generalists. Companies opt to locate in the type of incubator that creates the most value for them. These results align with findings that show companies choose among locations within their region (Pe'er et al., 2008) and select the location that best fits their needs and expectations (Cantú, 2010; Wright et al., 2008).

### 5.2. Necessary competence configurations

Several elements of the competence configurations apply to both specialist and generalist incubators (e.g., empathic capability, service quality control). However, because their competitive scopes and client service expectations differ so considerably, their internal structural and organizational aspects demand different adaptations. A generalist incubator should offer services that reflect the value chain, whereas a specialist should focus on primary activities (Porter and Millar, 1985).

With regard to the selection internal alignment aspect, we confirm that incubators should select weak but promising firms (Hackett and Dilts, 2008). Yet we also note a clear distinction between the selection criteria for generalists and those for specialists. Generalists focus relatively more on personal, team, and finance-related selection criteria; specialists devote more attention to market-related criteria. Existing research does not seem to make this distinction and instead suggests that a balanced selection process, using all these criteria, is preferable (Aerts et al., 2007; Lumpkin and Ireland, 1988; Merrifield, 1987), and does not include a recognition that specialists might need different selection criteria than generalists.

In addition, we discover a selection criterion that has been largely overlooked by prior studies, namely, whether companies have a “willingness-to-interact” attitude. Although previous research suggests that value creation occurs only when tenant use networking opportunities extensively (Hughes et al., 2007), it has not established the willingness-to-interact attitude as a selection criterion. Instead, most personal selection criteria focus on the management team’s age or gender; technical, financial, and marketing skills; aggressiveness/persistence; or references (Aerts et al., 2007; Lumpkin and Ireland, 1988). The failure to recognize the importance of openness to interactions seems strange, because studies show that frequently acting on and using incubator services, such as networking and business support, effectively characterize innovative, internationally focused, growth-oriented firms (Hytti and Mäki, 2007). Furthermore, the consensus opinion is that incubators strive for such company development processes (Hackett and Dilts, 2008).

For the resource munificence internal dimension (Hackett and Dilts, 2008), we find that regular contact among tenants, incubator personnel, and external experts is indispensable for stimulating cooperation and resource usage. Existing literature confirms that incubator managers exert significant effects on contact frequency, and furthermore that their efforts to establish a good working climate and trust can influence cooperation frequency (Tamašy, 2002). Trust is necessary because tenants fear that their ideas and business secrets might be stolen by other tenants (McAdam and Marlow, 2007) or experts/consultants (Chan and Lau, 2005). Our study reinforces these concerns, which stresses the importance of an open culture in which tenants are not afraid to interact with other tenants, incubator personnel, or external networking partners. In this situation, efficient, effective technology transfer and innovation processes (Gibson and Naquin, 2011) and interactions that support optimal technology usage (Berg and Einspruch, 2009) can take place. Again, a willingness-to-interact attitude offers a strong foundation for such an open culture.

We also find discussions of monitoring and business assistance in prior literature, especially pertaining to the role and importance of good strategic management practices (Autio and Klöfsten, 1998; Westhead and Batstone, 1998). For example, incubator managers and experts might use Walsh and Linton’s (2011)
“Strategy-Technology Firm Fit Audit” tool to examine whether a potential tenant’s managerial capabilities and technical competencies fit their “potential product, strategic business unit, acquisition or innovation efforts” (p. 213). Thus they can avoid potential failures by adopting in-depth audit and strategy planning.

Finally, our study is in line with previous research that stresses the importance of quality control and improvement (Hackett and Dilts, 2008) and customized support offerings that reflect tenants’ changing development stages (Bruneel et al., 2012; Chan and Lau, 2005). Such approaches help increase tenant satisfaction with counseling and business assistance effectiveness, an important aspect of business support (Bergek and Norrman, 2008) that many tenants consider currently ineffective (Abduh et al., 2007). For example, for technology-intensive companies, coaching related to R&D investment programs, such as the Taiwanese Technology Development Program (Lu and Hung, 2011), can entail a form of customized monitoring. Although an in-depth study of changing tenant needs and incubator service offerings falls beyond the scope of our study, our results indicate the need for such studies. To the best of our knowledge, Chan and Lau’s (2005) study is the only one that explicitly links tenant development stages to changing incubator service offerings.

6. Conclusion

In presenting the conclusion of this study, we start with offering an answer on the paper’s research questions and summary of its most important contributions to extant literature. Then we present practical implications for incubator managers, potential clients and incubator sponsors. Finally, we discuss the study’s most important limitations and future research possibilities.

6.1. Summary and contribution to the literature

We investigate two research questions: how can business incubators, located in the same region, differentiate themselves in the incubation market through customer value creation? And how can incubators ensure their external and internal alignment for each differentiation alternative? Our empirical analysis supports a nuanced evaluation of customer value creation options through service offerings, which reveals that some services lead to incubator differentiation, whereas others only prevent incubator failure. This distinction depends on the amount of customer value created by the incubator service offerings, rooted in tenant service expectations. Though prior research recognizes the importance of a customer viewpoint on service offerings (Abduh et al., 2007) and incubator strategies (Bruneel et al., 2012), it has not differentiated sufficiently between high and low value-creating services (Mian, 1996). We also confirm the findings with opinions from incubator managers and experts related to the differentiation possibilities for incubators.

Contrary to the common belief that only focused incubators create high customer value (Bruneel et al., 2012; Schwartz and Hornych, 2008), we empirically find two service-based differentiation options for incubators. With a generalist stance, the incubator attracts tenants from a wide variety of sectors and technologies, and it can attain differentiation by offering on-site,
in-depth operational business support, in-depth administrative services, and personal network contacts. With a specialist stance, the incubator instead appeals to tenants from a specific sector or field and should offer on-site, in-depth sector- or technology-specific services and personal contacts to attain differentiation.

Beyond this distinction, we determine the necessary organizational aspects for each strategy alternative and uncover two main differences in the internal organizations of specialists and generalists: the selection process and the service offerings. Specialists evaluate market-related features of their potential tenants, whereas generalists focus more on personal, team, and financial characteristics. This distinction has not appeared in previous research, which is surprising, considering that the incubator’s internal functioning and value proposition is rooted in its selection process (Bruneel et al., 2012). Furthermore, each strategy type has its own resource focus: whereas generalists offer operational business support, specialists focus on primary business support, and their critical internal resources and competences differ accordingly. If the incubator can align these competencies with its strategic position, it enjoys differentiation possibilities (Newbert et al., 2007; Prahalad and Hamel, 1990). In this respect, Ray et al. (2004) argue that it is not having access to a large amount of resources but having access to critical resources that results in a competitive advantage.

In addition to these differences between specialists and generalists, our empirical study offers two key results that hold for both incubator types but have largely been overlooked by or contradicted in existing research. First, we contest the common claim that networking and cooperation efforts are more effective in focused than in diversified incubators (Haapasalo and Ekholm, 2004; Rice, 2002). We find that many companies search for diversified incubators, because they prioritize operational support, a finding that matches recent work by Schwartz and Hornych (2010). Second, we identify a willingness-to-interact attitude as pivotal for optimal support offerings. Existing research on incubator selection criteria has overlooked this selection criterion (Aerts et al., 2007; Lumpkin and Ireland, 1988; Merrifield, 1987), even as it recognizes that business and networking support can lead to optimal incubation outcomes only if they are used extensively by tenants (Hughes et al., 2007; Hytt and Mäki, 2007).

6.2. Contributions to incubator managers, potential tenants, and incubator sponsors

Drawing on these results, incubator managers can more effectively choose an appropriate service-based differentiation strategy. They should assess the competitive scope and competitive advantage they hope to achieve by analyzing company expectations and the competitive positions of other incubators in their region. In turn, they can reach a well-supported determination of the most appropriate strategic position. Both generalist and specialist stances can result in differentiation, but the incubator’s internal organization must be adapted to its stance for success to result. Incubator sponsors, such as universities and government organizations, also might offer support by undertaking a market and internal feasibility study before forming the incubator (Zablocki, 2007). This study could define the service expectations of potential clients (Zablocki, 2007), which would reveal the necessary internal organizational aspects. Incubator sponsors also might develop a subsidy or sponsorship scheme that provides incentives for implementing appropriate processes, systems, assets, knowledge, capabilities, and culture that lead to internal fit (Matthyssens et al., 2009). Finally, our study results might help potential tenants choose their incubator more effectively. Depending on the support services they need, different locations might be advisable. Entrepreneurs with a technical background, for example, often lack marketing and financing knowledge (Heydebreck et al., 2000), so they might benefit most from a generalist incubator offering in-depth, customized operational business knowledge. In contrast, companies in a sector that features few other players might prefer a specialist incubator that offers them a strong image and the credibility to attract core business-related partners.

6.3. Further research

There are three main limitations related to our research design and three main questions surged during our empirical investigation. Each suggests a potential research extension. First, the complexity of the topic pushed us to undertake a qualitative study, which means its results cannot be generalized. We thus call for additional research that pursues a widespread, quantitative analysis and provides insight into the general applicability of our results. Second, we focused on nonprofit economic development incubators, though various other types of incubators exist (e.g., Aernoudt, 2004; Von Zedtwitz, 2003). Researchers therefore might conduct a similar study among for-profit incubators or those focused on social or basic research (Aernoudt, 2004). Third, further research should move beyond service-based differentiation tactics, to include different bases for the competitive scope, such as the type of entrepreneurs or the incubator’s geographical segment (Von Zedtwitz, 2003). For example, interaction and cooperation require some similarity in tenants’ knowledge bases (Mowery et al., 1998), so a particular type of entrepreneur might be beneficial, such as university faculty and students (Von Zedtwitz, 2003). An incubator’s geographical segment might also influence its differentiation possibilities, because “network access is a crucial element of successful incubation” (Von Zedtwitz, 2003, p. 181), and institutional factors in the geographic segment might influence the organization’s functioning as well (Lalkaka, 2003). Fourth, current knowledge about incubators’ selection processes is insufficient. In addition to the willingness-to-interact attitude criterion, other selection criteria may have been overlooked by extant research. Because an incubator’s selection process defines how it functions (Bruneel et al., 2012), we consider further research on this aspect of great importance. Fifth, the incubator’s development process also influences its functioning (Bruneel et al., 2012), yet this internal aspect has not been examined. Finally, we show that tenant service needs might change, depending on tenant characteristics such as age, development stage, or sector. Previous research implies the importance of such service offering changes (Bruneel et al., 2012; Hackett and Dilts, 2008), but more studies should explicitly investigate how these changing service offerings relate to tenant development stages (Chan and Lau, 2005).

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Appendix A

See Tables A1 and A2.
Table A1
Characteristics of sample incubators.

<table>
<thead>
<tr>
<th>Incubator</th>
<th>Interviewee</th>
<th>Year of founding</th>
<th>Size, office space (m²)</th>
<th>Average occupancy rate (2007–09)</th>
<th>Sector or technology focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Manager</td>
<td>1986</td>
<td>2,267</td>
<td>57%</td>
<td>None</td>
</tr>
<tr>
<td>B</td>
<td>Manager</td>
<td>1986</td>
<td>649</td>
<td>84%</td>
<td>None</td>
</tr>
<tr>
<td>C</td>
<td>Manager</td>
<td>1985</td>
<td>1,069</td>
<td>91%</td>
<td>None</td>
</tr>
<tr>
<td>E</td>
<td>Manager</td>
<td>2000</td>
<td>618</td>
<td>97%</td>
<td>Creative sector</td>
</tr>
<tr>
<td>F</td>
<td>Manager</td>
<td>2000</td>
<td>550</td>
<td>70%</td>
<td>None</td>
</tr>
<tr>
<td>G</td>
<td>Manager</td>
<td>2009</td>
<td>720</td>
<td>17% (2009)</td>
<td>Energy and environmental technology</td>
</tr>
<tr>
<td>H</td>
<td>Manager</td>
<td>1995</td>
<td>1,045</td>
<td>95%</td>
<td>None</td>
</tr>
<tr>
<td>I</td>
<td>Manager</td>
<td>1993</td>
<td>1,160</td>
<td>83%</td>
<td>High-tech, life sciences and information &amp; communication technology</td>
</tr>
</tbody>
</table>

* This incubator has two buildings in the same location.

Table A2
Characteristics of sample incubator tenants.

<table>
<thead>
<tr>
<th>Incubator</th>
<th>Tenant Interviewee</th>
<th>Year of founding</th>
<th>Number of full-time employees</th>
<th>Year joined incubator</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A1 CEO</td>
<td>2008</td>
<td>2</td>
<td>2008</td>
<td>Gifts for private businesses</td>
</tr>
<tr>
<td>A</td>
<td>A2 CEO</td>
<td>2001</td>
<td>45</td>
<td>2009</td>
<td>Catering services</td>
</tr>
<tr>
<td>A</td>
<td>A4 CEO</td>
<td>1999</td>
<td>1</td>
<td>2006</td>
<td>Wireless systems and appliances</td>
</tr>
<tr>
<td>A</td>
<td>A5 CEO</td>
<td>1995</td>
<td>4</td>
<td>2007</td>
<td>Computerizing processes</td>
</tr>
<tr>
<td>B</td>
<td>B1 Coordinator</td>
<td>1984</td>
<td>2</td>
<td>2004</td>
<td>Promotion and awareness stimulation of sustainable energy use and environmental protection</td>
</tr>
<tr>
<td>B</td>
<td>B2 Managing partner</td>
<td>1992</td>
<td>40</td>
<td>1993</td>
<td>Information and communication technology service provision</td>
</tr>
<tr>
<td>B</td>
<td>B3 Manager</td>
<td>2009</td>
<td>6</td>
<td>2009</td>
<td>Integrated services for health care</td>
</tr>
<tr>
<td>C</td>
<td>C1 CEO</td>
<td>1998</td>
<td>3</td>
<td>1998</td>
<td>Air transport</td>
</tr>
<tr>
<td>C</td>
<td>C2 Manager</td>
<td>2000 (Belgium: 2008)</td>
<td>Market research in foodservices market</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>C3 General Manager</td>
<td>1998</td>
<td>7</td>
<td>2007</td>
<td>Chemical: water and paper treatment</td>
</tr>
<tr>
<td>C</td>
<td>C4 CEO</td>
<td>2006</td>
<td>1</td>
<td>2006</td>
<td>Consultancy: crisis management</td>
</tr>
<tr>
<td>C</td>
<td>C5 CEO</td>
<td>2006</td>
<td>18</td>
<td>2008</td>
<td>Information and communication technology: optimizing business processes</td>
</tr>
<tr>
<td>D</td>
<td>D1 CEO</td>
<td>2009</td>
<td>4</td>
<td>2008</td>
<td>Sales and installation of solar panels and applications</td>
</tr>
<tr>
<td>D</td>
<td>D2 CEO</td>
<td>2007</td>
<td>1</td>
<td>2007</td>
<td>Study center: engineering</td>
</tr>
<tr>
<td>D</td>
<td>D3 Regional Director</td>
<td>1811 (Belgium: 1975)</td>
<td>27</td>
<td>2008</td>
<td>Elevators</td>
</tr>
<tr>
<td>E</td>
<td>E1 CEO</td>
<td>2001</td>
<td>4</td>
<td>2009</td>
<td>Interior designer</td>
</tr>
<tr>
<td>E</td>
<td>E2 CEO</td>
<td>2008</td>
<td>2</td>
<td>2008</td>
<td>Communication expert</td>
</tr>
<tr>
<td>F</td>
<td>F1 CEO</td>
<td>1998</td>
<td>14</td>
<td>2001</td>
<td>Specialized dry-cleaning cars</td>
</tr>
<tr>
<td>F</td>
<td>F2 CEO</td>
<td>2007</td>
<td>1</td>
<td>2008</td>
<td>Consultancy: events</td>
</tr>
<tr>
<td>F</td>
<td>F3 CEO</td>
<td>1999</td>
<td>1</td>
<td>2005</td>
<td>Design and publicity</td>
</tr>
<tr>
<td>G</td>
<td>G1 CEO</td>
<td>2008</td>
<td>32</td>
<td>2009</td>
<td>Research and development: pharmaceuticals</td>
</tr>
<tr>
<td>G</td>
<td>G2 CEO</td>
<td>2009</td>
<td>4</td>
<td>2009</td>
<td>Study center: subterranean energy storage and heat pumps</td>
</tr>
<tr>
<td>H</td>
<td>H1 CEO</td>
<td>1991</td>
<td>4</td>
<td>2000</td>
<td>Audiovisual communication and documentaries</td>
</tr>
<tr>
<td>H</td>
<td>H2 Employee</td>
<td>1999 (Belgium: 2003)</td>
<td>2</td>
<td>2005</td>
<td>Hardware development</td>
</tr>
<tr>
<td>H</td>
<td>H3 CEO</td>
<td>1999</td>
<td>2</td>
<td>2000</td>
<td>Communication expert</td>
</tr>
<tr>
<td>H</td>
<td>H4 CEO</td>
<td>2008</td>
<td>2</td>
<td>2008</td>
<td>Publishing company</td>
</tr>
<tr>
<td>I</td>
<td>I1 Employee</td>
<td>1977</td>
<td>1.5</td>
<td>1993</td>
<td>Training, advice, and knowledge center creative thinking</td>
</tr>
<tr>
<td>I</td>
<td>I2 CEO</td>
<td>2006</td>
<td>2</td>
<td>2009</td>
<td>Software development</td>
</tr>
</tbody>
</table>

* First as part of a large organization, then a separate company.


Johanna Vanderstraeten is a Ph.D. candidate at the Department of Management (Faculty of Applied Economics, University of Antwerp, Belgium). Her research focuses on strategy, institutional theory, performance and service delivering in the business incubator context. She published in International Marketing Review and presented papers at international conferences, such as the International Council for Small Business and the European Council for Small Business and Entrepreneurship.