Entrepreneur ambidexterity: A study of entrepreneur behaviours and competencies in growth-oriented small and medium-sized enterprises

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*International Small Business Journal* published online 6 May 2013
DOI: 10.1177/0266242613484777

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What is This?
Entrepreneur ambidexterity: A study of entrepreneur behaviours and competencies in growth-oriented small and medium-sized enterprises

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Abstract
This article uses the sociological method of structured observation to explore the every day behaviour of entrepreneurs from an exploration-exploitation perspective. Six entrepreneurs leading successful growth-oriented businesses were observed for a four-day period and 2305 ‘units of action’ performed by the entrepreneurs were recorded. Six behavioural patterns that allowed them, their management team or the organisation as a whole to pursue ambidexterity were identified. In contrast with the existing high-level approaches of ambidexterity, this study provides a synthesis of entrepreneur behaviours and competencies to achieve ambidexterity at the operating level.

Keywords
ambidexterity, entrepreneur behaviour, exploitation, exploration, growth

Introduction
Ambidexterity, the ability to explore and exploit simultaneously, has been widely discussed in the literature on management (e.g. Gupta et al., 2006; March, 1991). The capacity both to explore and
‘search for new, useful adaptations’, and exploit through ‘the use and propagation of known adaptations’ (Fang et al., 2010: 626), is vital to the survival and performance of organisations. A range of studies that build on this premise of ambidexterity have suggested that exploration and exploitation function in a complementary fashion in the pursuit of innovative initiatives alongside daily operational tasks (Boumgarden et al., 2012; Groen et al., 2008; He and Wong, 2004). However, much of the literature and research to date has focused on organisational ambidexterity in order to provide insight into ways in which firms can maintain a balance between exploration and exploitation.

Although some studies acknowledge that a small number of leading figures must be able to ensure learning and integration and, when required, to reconfigure existing assets to pursue new opportunities (e.g. Lubatkin et al., 2006; Smith and Tushman, 2005), scant attention has been given to what makes an individual ambidextrous. With the notable exception of Mom et al.’s (2007, 2009) studies, the individual dimension of ambidexterity – particularly on a behavioural level – has not been explored further. As O’Reilly and Tushman recently remarked:

What is missing is clear articulation of those specific managerial actions that facilitate the simultaneous pursuit of exploration and exploitation … what is needed is greater insight into the specific micro-mechanisms required for a manager to implement and operate an ambidextrous strategy. (2011: 8)

This study addresses the following research question:

What are the behaviours and competencies of entrepreneurs that allow them, their management team and the organisation to pursue ambidexterity?

In contrast with high-level approaches (e.g. Tushman et al., 2011), we attempt to provide a synthesis of the entrepreneur’s behaviours and competencies to achieve ambidexterity at the operating level. Several reasons warrant the examination of entrepreneur ambidexterity in small and medium-sized enterprises (SMEs). First, small businesses have limited resource endowments. Since exploration and exploitation compete for scarce resources, attention and organisational routines, this situation is likely to heighten the paradoxes facing entrepreneurs. Second, most SMEs are owned and managed by one individual or a very small group of individuals: the owner-manager makes virtually all strategic decisions. All of these suggest that the owner-manager might be the key driver of ambidexterity and thus, a central actor in an entrepreneurial firm.

As the entrepreneurs behaviours and competencies form the basis for the creation and development of new ventures, increasing our understanding of what entrepreneurs actually do and the forms of behaviours and competencies that enable ambidexterity will enrich the field of entrepreneurship research (Wright and Marlow, 2012). Since we are studying entrepreneurs and their simultaneous pursuit of exploration and exploitation, this article will refer to ‘entrepreneurs’ ambidexterity’ rather than of ‘entrepreneurial ambidexterity’. While the former pertains to the behaviour and actions of entrepreneurs to achieve ambidexterity, the latter is somewhat tautological, since entrepreneurship implies by definition a combination of exploration and exploitation (Shane and Venkataraman, 2000).

Ambidexterity: defining the concept

Viewed literally, ambidexterity means the ability to use both hands with equal ease. In the literature on management, the concept is used increasingly to refer to an organisation’s ability to do two
seemingly paradoxical things simultaneously: for example, to explore and exploit, be efficient and be flexible, or align and adapt (Simsek, 2009). Thus, ambidexterity has been largely discussed in the context of larger organisations by way of the term ‘organisational ambidexterity’.

**Organisational ambidexterity: constituents and requirements**

The seminal work in the field was conducted by March, who distinguished between exploration and exploitation in organisational learning:

> Exploration includes things understood in terms like research, variation, risk-taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes things like improvement, choice, production, efficiency, implementation, execution. (1991: 71)

In other words, whereas ‘exploration engages individuals and organisations in search, experimentation and variation, exploitation enhances productivity and efficiency through choice, execution and variance reduction’ (Lavie et al., 2010: 110). In keeping with March (1991), organisational ambidexterity has been traditionally viewed as an organisation-level construct that manifests itself in an organisation’s explorative and exploitative attainments (He and Wong, 2004; Simsek, 2009).

A central premise of March’s (1991) framework concerns the inherent trade-offs between exploration and exploitation. The opposing nature of these two activities derives from several stylised facts about resource-allocation constraints, organisational inertia and desirable organisational outcomes (Lavie et al., 2010). Therefore, managers who strive to engage in both exploration and exploitation face a fundamental paradox. While exploration and exploitation complement each other in generating a high level of performance, the organisational structure and choices that produce them demonstrate negative externalities that undermine the simultaneous delivery of both (Boumgarden et al., 2012).

Prior research has identified three fundamental modes of coping with the conflicting demands of exploration and exploitation; organisational separation, temporal separation and contextual ambidexterity (Lavie et al., 2010). Organisational separation is a form of spatial buffering, whereby explorative and exploitative activities are conducted simultaneously, albeit in distinct entities within the organisation. For example, O’Reilly and Tushman (2004) suggested that ambidextrous organisations establish project teams that are structurally independent units, each of which has its own processes, structures and cultures, but nonetheless is integrated into the existing management hierarchy.

With temporal separation, exploration and exploitation coexist in the same organisational entity but at different points in time, in order to create a ‘punctuated equilibrium’ or ‘temporal cycling between long periods of exploitation and short burst of exploration’ (Gupta et al., 2006: 698). In a similar vein, Boumgarden et al. (2012) coined the term ‘organisational vacillation’ to describe the approach that emphasises achieving high levels of both exploration and exploitation by temporally and sequentially alternating between organisational structures that promote either exploration or exploitation. For managers, this implies that they should shift their focus over time from pursuing incremental innovations or stability to pursuing radical innovation or strategic renewal or vice versa.

Contextual ambidexterity helps to resolve the tension between exploration and exploitation by suggesting that these activities permeate all functions and levels in an organisation (Lavie et al., 2010). Gibson and Birkinshaw (2004) showed that through contextual ambidexterity, organisations can encourage individuals to make their own choices as to how to divide their time between
alignment- and adaptability-oriented activities. Gibson and Birkinshaw argued ‘that a context characterized by a combination of stretch, discipline, support and trust facilitates contextual ambidexterity’ (2004: 209).

Overall, authors appear to have interpreted the concept of ambidexterity as the ability to pursue two contrasting objectives, which inherently leads to a tension that must be reconciled or accommodated (Groen et al., 2008, 2010; Raisch et al. 2009; Simsek, 2009). Collectively, these studies not only stress the importance of balancing exploration for survival and prosperity, but also demonstrate that such a balance may be achieved across multiple organisational levels and over a prolonged period of time.

**Ambidexterity at the individual level**

The possibility that individuals can perform both exploration and exploitation tasks creates a number of challenges that need to be addressed. For example, Raisch et al. (2009) remarked that ambidextrous managers must manage contradictions and conflicting goals, engage in paradoxical thinking and fulfil multiple roles. Nevertheless, the literature indicates several paths that managers can follow in order to carry out activities in an ambidextrous fashion.

In their study of the influence of knowledge inflows on managers’ exploration and exploitation activities, Mom et al. (2007) found that formal structural mechanisms indicate that a manager’s decision-making authority is positively related to ambidexterity. Their findings suggested that a combination of both top-down and bottom-up knowledge, or a combination of both top-down and horizontal knowledge inflows, would be of particular value for managers. More recently, Tushman et al. (2011) suggested that ambidextrous chief executive officers (CEOs) are able to maintain a balance between exploitation and exploration. These CEOs typically apply three leadership principles that help their firms to grow their core businesses, even as they cultivate new offerings that will reshape their industries:

1. they engage a senior team around a forward-looking strategic aspiration;
2. they explicitly maintain a balance between the demands of innovation units and the core business at the top of the organisation; and
3. they embrace inconsistency by maintaining multiple, and often conflicting, strategic agendas.

A recent stream of research showed that top management teams play a pivotal role in attaining organisational ambidexterity. Lubatkin et al. (2006) established that top management team behavioural integration facilitated the processing of disparate demands essential to attaining ambidexterity in SMEs. Behaviourally integrated top management teams can serve as a forum in which senior managers can exchange contradictory ideas, resolve conflicts and create a set of shared perceptions openly and freely, thereby facilitating the firm’s development of ambidexterity. In a similar vein, Carmeli and Halevi (2009) suggested that top management team behavioural integration gives rise to behavioural complexity in a team, which in turn enables strategic decisions balancing exploration and exploitation. They argued that top management team processes and capacities play a major role in the organisational capacity to manage effectively opposing demands such as exploration and exploitation. More recently, Cao et al. (2010) considered the importance of networking and building social capital to the access of timely, valuable and diverse information, and they demonstrated that the CEO’s network extensiveness positively influenced ambidexterity.
In addition to the leadership and management aspect of organisational ambidexterity, Gibson and Birkinshaw’s (2004) contextual ambidexterity concept showed four ambidextrous behaviours in managers:

1. taking the initiative outside their own job roles;
2. cooperative behaviour;
3. brokering, looking to build internal linkages; and
4. multitasking – being ‘comfortable wearing more than one hat’ (Gibson and Birkinshaw, 2004: 49).

However, as Turner et al. pointed out in their review of the field, ‘there is limited theorization regarding managerial ambidexterity (especially at the lower levels of the organisational hierarchy) and what this means in practice’ (2012: 11).

Nevertheless, organisational mechanisms may be required to enable ambidexterity at the individual level. For example, Smith and Tushman (2005) suggested that organisational forms that build internally consistent architectures and cultures into business units are conducive to both exploration and exploitation. These organisational architectures involve highly differentiated units as well as top management integration.

The present study defines ambidexterity at the individual level as the ability to pursue both exploration and exploitation with equal dexterity. Therefore, it is anticipated that ambidextrous entrepreneurs will show a particular ability to pursue two disparate activities, such as exploitation versus exploration, efficiency versus flexibility, stability versus adaptability, execution versus experimentation, and short-term optimisation versus long-term development. However, we acknowledge that ‘ambidexterity is likely to be a function of closely interrelated individual and organisational effects – but in most cases more than the sum of individual activities’ (Raisch et al., 2009: 688). Accordingly, individual ambidexterity reflects both entrepreneur behaviour (the actions that they perform, which can be observed) and competencies (the ability to put the firm’s combined resources effectively into practice to deliver business results) which, in turn, sustain the ambidexterity of the whole organisation. Table 1 provides an overview of the individual roles and activities associated with exploration and exploitation.

**Method**

This study used the sociological method of structured observation to capture the nature of entrepreneur behaviour. This method ‘couples the flexibility of open-ended observation with the discipline of seeking certain types of structured data’ (Mintzberg, 1973: 231). Structured observation allowed us to inductively develop granular patterns of entrepreneurs’ behaviours and competencies enabling ambidexterity.

In line with Bird et al. (2012), entrepreneur behaviour is defined here as the concrete enactment of an individual task or activity required to initiate, grow or transform a business venture. Therefore, behaviours include actions that can be observed. Competencies may be defined as the knowledge, abilities, skills and attitudes that are necessary to perform a job successfully (Parry, 1998). Thus, competencies enable behaviours of different qualities, but they are not behaviour themselves.
A sample of six owner-managers was selected according to a predefined set of criteria, as suggested by Eisenhardt (1989). These criteria required the owner-managers to be experienced (the ventures were between five and nine years old at the time of the observation), and to be the founder or co-founder of a successful growth-oriented company. In using these criteria, the aim was to identify entrepreneurs rather than individuals who were merely administering a small, independent business. In addition, since the entrepreneurs were at the helm of successful growth-oriented businesses, it was anticipated that these individuals and their organisations were likely to behave ambidextrously.

All owner-managers were recipients of the Entrepreneur of the Year award from Ernst & Young (an established award for entrepreneurs at the helm of successful high-growth and innovative businesses). The study recorded different indicators of actual growth: namely, new products launched in the last four years, the compound annual growth rate of the past four years, and the entrepreneurs’ growth intentions (Dutta and Thornhill, 2008).

Table 2 provides the descriptive statistics of the sample, indicating that the owner-managers grew their organisations substantially in the last four years and that they also have the intention to grow their companies further. The SMEs were located in Switzerland, Germany and Austria, and were operating in different industries, including robotic rehabilitation, pharmacy retail, software development, internet services, fencing franchise and clean technology.

### Data collection

Each owner-manager was shadowed over four working days between January and June 2009, totaling 257 hours of observation. A team of three researchers conducted the observations, with one researcher observing each entrepreneur concurrently. To increase validity, the owner-managers were asked to select working days that were representative of their activities; it was stressed that...
the observations should not be affected by unusual events. Hence, the observation did not necessarily take place over consecutive days.

Drawing on Bird and Schjoedt, the study recorded all entrepreneur behaviour defined as ‘discrete units of individual activity that can be observed by an “audience” and that have a meaning that is likely to be shared between actor and audience’ (2009: 335). In total, 2305 ‘units of action’ performed by the entrepreneurs were identified. A unit of action captures a single, basic behaviour of the entrepreneur, which can last anywhere from a few seconds (e.g. writing a two-line email to an employee) to an hour or more (e.g. doing a sales pitch for a client). Typically, behaviour was defined as a new action if the location, communication medium or people involved in the action changed.

**Data coding and analysis**

All recorded actions were entered into a database, and an iterative process involving the three co-authors was initiated. This process comprised three main steps.

**Distinguishing between explorative and exploitative actions.** In line with March, we considered exploitation as ‘refinement, choice, production, efficiency, selection, implementation and execution’, contrasting it with exploitation, which involves ‘search, variation, risk-taking, experimentation, discovery and innovation’ (1991: 71). In this vein, the actions taken to run or improve existing business operations through choice, execution and variance reduction were categorised as ‘exploitation’. Such actions included, for example, time spent on administrative tasks, actions taken to increase efficiency, selling products to existing customers or maintaining relationships with employees. Typically, such actions are linked to administration, routines, reliability of products and services and monitoring. In contrast, actions related to searching, recognising, exploring and enacting opportunities were categorised as ‘exploration’. These actions are

<table>
<thead>
<tr>
<th>Table 2. Sample overview.</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Size (employees in 2009)</td>
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<tr>
<td>Turnover (2009, in €m)</td>
</tr>
<tr>
<td>New products launched in last 4 years</td>
</tr>
<tr>
<td>Average sales growth past 4 years</td>
</tr>
<tr>
<td>Growth intention:</td>
</tr>
<tr>
<td>Importance of future sales growth</td>
</tr>
</tbody>
</table>

*13 employees (franchisor); 300 employees (franchise network).  
*Compound annual growth rate.  
*1 = not important at all; 5 = highly important.
linked to learning and experimentation, and are typically open-ended and contain an element of risk. They include, among others, environment monitoring, product development, evaluation of new business options and changes to existing business structure.

**Coding and exploration of disagreements.** At this stage, each unit of action was coded either as exploration or exploitation. For virtually all actions that were recorded, we were able to observe its context and often its purpose, which in turn greatly helped the coding process. For example, one action observed was ‘reads report’. This could be an internal report about monthly sales (this indicated a monitoring activity and was coded as ‘exploitation’), or in other circumstances this could be a report outlining market research information for a new product (this was a product development activity and coded as ‘exploration’). The three researchers completed independently a series of five rounds of coding for 100 units of action. This was a tedious process, given the richness of the data, and there was often difficulty in distinguishing between exploration and exploitation actions. To address this challenge, the researchers met between each round to discuss coding discrepancies and to clarify the content and scope of exploration and exploitation. In addition, a set of internal rules was established for coding actions for which there were often disagreements. For example, all the coffee breaks were coded as ‘private’ (in case they were not used for networking issues or talks with colleagues, etc.) and were not included in this analysis. Similarly, it was difficult to determine whether, for example, checking emails was more closely related to exploration or exploitation (in this case, we ruled that this was exploitation, unless we had further information proving otherwise). During this process of ‘coding–feedback–change’ a total of 500 actions were coded independently from each other, with an inter-reliability of 78 percent reached during the last round of coding.

**Data analysis.** The study searched for patterns with regard to the behaviours and competencies of entrepreneurs that allowed themselves, the management team or the organisation as a whole to pursue ambidexterity. However, the study was interested in behaviours and competencies only if they were linked to or initiated by the entrepreneurs’ actions. In order to identify patterns, the researchers went back to the recorded observations and analysed the data. The individual results from each researcher were summarised: i.e. similar behaviours or competencies were merged together. In total, six behavioural patterns that were observed in at least four out of six entrepreneurs were found.

**Results**

On the level of an individual action, each action was coded either as ‘exploitation’ or ‘exploration’. Since a record was kept of the duration of each action, it is possible to report what portion of the working time entrepreneurs spend on exploration or exploitation. On average, the observed entrepreneurs spent 78 percent of their time dealing with actions pertaining to exploitation, and 20 percent with actions pertaining to exploration (the remainder was allocated to travelling). The variance of time allocated to either exploitation or exploration between the observed entrepreneurs was substantial. The time percentage allocated to exploration ranged from 11 percent to 36 percent, while the time percentage allocated to exploitation ranged from 64 percent to 89 percent.

Investigating ambidexterity at the individual level raises a question about the locus of action: that is, about who exerts control on entrepreneur behaviour to enable ambidexterity. The observations indicate that exploration and exploitation activities are driven largely by entrepreneurs themselves, as suggested by the high level of self-initiated actions; on average, the owner-managers initiated 79 percent of the observed actions by themselves (e.g. initiated a telephone call, approached a colleague to talk about a certain topic and chose to reply to an email at a specific time). This high level of self-initiated action was observed in all owner-managers. The high level of self-determination affirms results from previous studies. For example, Harris et al. (1999)
mentioned that entrepreneurs have the ability to choose, with some limitations, their activities, and therefore exercise their skills in a self-determined manner.

While the entrepreneurs spend the majority of their time on exploitation, the study observed behavioural patterns that allowed all entrepreneurs to accomplish both actions related to explorative dimensions (e.g. long-term perspective, variation and risk taking), *and* actions related to exploitative dimensions (e.g. short-term perspective, reliability and efficiency); albeit not with equal proportions of time. An overview of the behavioural patterns that were identified across the sample of observed entrepreneurs is provided in Table 3.

**Behavioural pattern 1: building and maintaining boundary-spanning relationships that support ambidexterity**

The observations provided a unique opportunity to watch entrepreneurs interacting with people both inside and outside the organisation. One key pattern that emerged from the observations were external (‘boundary-spanning’) behaviour with a wide range of actors, including customers, suppliers, professionals and even competitors. Often, the entrepreneurs would meet or communicate repeatedly with these actors which, over time, became part of the entrepreneurs’ network. All observed entrepreneurs were able to create and maintain networks outside the company that they used for exploitation and exploration purposes.

Explorative usage of the external network included, for example, a partnership with a research institution to explore a new method to clean soil (entrepreneur #6) or an initiative to develop a new product together with a business partner (#5). Some of the entrepreneurs headed companies without dedicated research and development departments and therefore were reliant on approaches helping them to leverage scarce resources. Another entrepreneur served as a board member of a university of applied sciences, a position that he used for explorative and exploitative purposes (#4). His engagement gave him the opportunity to evaluate the latest technologies actively (exploration), and provided him not only with access to the highly trained graduates that he needed in order to grow his company, but also to innovate (exploitation and exploration). Another example of applying the external network for exploitation purposes included using personal contacts to gain access to new customers (#6) and discussing the expansion of the business into new geographical areas (#5).

The enabling capabilities of the observed behaviour were a general openness to present, challenge and discuss new ideas with external partners. Also, it was observed that the behaviour was supported by active listening and empathetic discussions with others, which led us to the conclusion that ambidextrous entrepreneurs have capabilities to form and maintain relationships. Overall, this capacity to reach out to others allowed them to seek out information indicative of alternative interpretations in order to improve current operations (exploitation) and to frame new opportunities (exploration).

**Behavioural pattern 2: avoiding becoming trapped solely in exploitation by preserving time for exploration**

Entrepreneurs are doers: unsurprisingly, exploitation appears to be the default activity for all of them. Once they arrive on the business premises, they invariably tend to get bogged down in solving pressing problems and answering queries from their employees. Therefore, exploitation is the default mode of action. Nevertheless, the entrepreneurs in this sample saw the benefit of stepping back and not getting stuck in the immediate in order to explore, reflect and engage in strategic
### Table 3. Behavioural patterns and competencies that allowed the entrepreneurs to pursue ambidexterity.

<table>
<thead>
<tr>
<th>Behavioural patterns and competencies</th>
<th>Examples of observed actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavioural pattern 1:</strong> building and maintaining boundary-spanning relationships that support ambidexterity</td>
<td></td>
</tr>
<tr>
<td>• Ability to use partners to exploit and explore new things [#1]</td>
<td></td>
</tr>
<tr>
<td>• Establishes collaboration with retail stores in non-competing sectors but with similar customers to develop innovative cross-selling [#2]</td>
<td></td>
</tr>
<tr>
<td>• Sets up a regional round table of entrepreneurs in relevant industries [#3]</td>
<td></td>
</tr>
<tr>
<td>• Board meeting at a university of applied sciences. The meeting provides an opportunity for technological scanning and recruit students for joint research projects [#4]</td>
<td></td>
</tr>
<tr>
<td>• Engages in explorative actions with external partners in order to develop new products [#5]</td>
<td></td>
</tr>
<tr>
<td>• Ability to explore options of cooperation when talking to external parties [#5]</td>
<td></td>
</tr>
<tr>
<td>• Uses personal contacts to win new customers [#6] and collaborates with external research institutions to explore new procedures [#6]</td>
<td></td>
</tr>
<tr>
<td><strong>Entrepreneur</strong></td>
<td>#1</td>
</tr>
<tr>
<td><strong>Behavioural pattern 2:</strong> avoiding becoming trapped solely in exploitation by preserving time for exploration</td>
<td></td>
</tr>
<tr>
<td>• Daily business mostly done by others, allowing the CEO to have time for exploration activities [#1]</td>
<td></td>
</tr>
<tr>
<td>• Establishes a routine of staying in the stores after hours to conduct undisrupted work on long term projects, such as product innovations and geographic expansion. Otherwise, constant interruptions by employees and customers [#2]</td>
<td></td>
</tr>
<tr>
<td>• Regularly takes some time off to read articles by leading researchers and practitioners; and strives to “build an organization which does not need him to operate on a daily basis” [#3]</td>
<td></td>
</tr>
<tr>
<td>• Delegates and empowers others, while directing, coordinating and controlling; maintains a division of roles and tasks between exploration and exploitation across staff members [#4]</td>
<td></td>
</tr>
<tr>
<td>• Let go; empowers employees to manage the daily business in order to free up time to pursue “pet projects” [#5]</td>
<td></td>
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</tbody>
</table>
Table 3. (Continued)

<table>
<thead>
<tr>
<th>Behavioural patterns and competencies</th>
<th>Entrepreneur</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#1 #2 #3 #4 #5 #6</td>
</tr>
<tr>
<td>Behavioural pattern 3: nurturing platforms for discussing exploration and exploitation-related issues</td>
<td></td>
</tr>
<tr>
<td>• Video conference with the people from the Boston subsidiary; they use the conference to address</td>
<td>✓</td>
</tr>
<tr>
<td>operative issues and to discuss new ideas [#1]</td>
<td></td>
</tr>
<tr>
<td>• Establishes explicit time slots for both exploration and exploitation-related tasks/activities</td>
<td>✓</td>
</tr>
<tr>
<td>[#2]</td>
<td></td>
</tr>
<tr>
<td>• Builds several groups each dealing with different exploitative or explorative initiatives within</td>
<td>✓</td>
</tr>
<tr>
<td>company [#2]</td>
<td></td>
</tr>
<tr>
<td>• Staff meeting to keep up-to-date with daily problems and presents new projects [#4]</td>
<td>✓</td>
</tr>
<tr>
<td>• Team meeting to discuss existing and potential new projects [#6]</td>
<td>✓</td>
</tr>
<tr>
<td>• Co-founders act as a sounding board: Together, they discuss how to deal with immediate problems</td>
<td>✓</td>
</tr>
<tr>
<td>and explore new options [#6]</td>
<td>✓</td>
</tr>
<tr>
<td>• Maintains close contacts with the people from other subsidiaries and discusses new business</td>
<td>✓</td>
</tr>
<tr>
<td>opportunities [#6]</td>
<td>✓</td>
</tr>
<tr>
<td>• Has an open door policy for employees who come in with new ideas [#6]</td>
<td>✓</td>
</tr>
<tr>
<td>Behavioural pattern 4: engaging in convergent and divergent thinking</td>
<td></td>
</tr>
<tr>
<td>• Entrepreneur is personally involved in developing and improving new product versions, also</td>
<td>✓</td>
</tr>
<tr>
<td>showcasing innovations in front of employees not directly working in R&amp;D functions [#1]</td>
<td>✓</td>
</tr>
<tr>
<td>• Encourages employees and partners to come up with new ideas, but monitor very closely the</td>
<td>✓</td>
</tr>
<tr>
<td>achievement of key financial and strategic objective at pre-defined stages of project development</td>
<td>✓</td>
</tr>
<tr>
<td>[#2]</td>
<td>✓</td>
</tr>
<tr>
<td>• Positively recognizes employees “stepping up” with criticism, ideas, and initiatives, in team and</td>
<td>✓</td>
</tr>
<tr>
<td>individual settings [#3]</td>
<td>✓</td>
</tr>
<tr>
<td>• Informs about proposed changes in the company (e.g., new organizational chart and structure) and</td>
<td>✓</td>
</tr>
<tr>
<td>seeks feedback from staff [#4]</td>
<td>✓</td>
</tr>
<tr>
<td>• Involves employees in the development and the running of a new subsidiary: gives employees</td>
<td>✓</td>
</tr>
<tr>
<td>freedom but also coaches them [#5]</td>
<td>✓</td>
</tr>
</tbody>
</table>

(Continued)
Behavioural patterns and competencies

Examples of observed actions

<table>
<thead>
<tr>
<th>Behavioural pattern 5: switching back and forth between task-oriented and change-oriented activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern shown by the statistics on exploration and exploitation actions: on average the entrepreneurs engaged in more than 90 actions per day. All entrepreneurs switched back and forth between actions related to exploration and actions related to exploitation.</td>
</tr>
<tr>
<td>Entrepreneur switched between explorative and exploitative actions and topics during the same meeting / discussion [#4]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioural pattern 6: shifting the focus of the organisation from exploration to exploitation and vice versa, as the current situation requires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusts the level of exploitation and exploration to the respective company phase [#1]</td>
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<td>Changes organizational objectives from exploitation to exploration from time to time [#2]</td>
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<td>First years mostly focused on developing product, now the focus is on selling [#3]</td>
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<tr>
<td>Focus on product development and market penetration in past two years. More attention is now being given to after-sale services in order to upgrade software and maintain ageing machines [#4]</td>
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<th>Entrepreneur</th>
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projects. Accordingly, their actions included time spent on projects to enter new markets, development of new products or meetings with potential business partners.

However, ‘free’ time for exploration is made, not found. In five out of six cases, the entrepreneurs engaged in creating time windows for themselves, and sometimes others, to engage in exploration activities. For example, one of the entrepreneurs tried to be involved mainly in strategic projects and important leadership or controlling tasks, while he aimed to reduce his involvement in operating tasks that could be delegated (#1). In general, it was observed that the entrepreneurs tried to reduce the time spent with daily business activities, even though none of the entrepreneurs could reduce the time allocated to exploitation to less than 64 percent. In order to free up time for exploration, the entrepreneurs also engaged in actions that enabled others to manage the daily business (#5): this included actions related to delegating, directing, coordinating and controlling (#4). Enabling others to engage in exploration projects was used not only to free up time for the entrepreneurs themselves, but also to direct more resources towards exploring new business opportunities. Entrepreneurs managed this by dividing roles and tasks between exploration and exploitation across staff members (#4), or by building several groups within the company that dealt either with exploitative or explorative initiatives and processes (#2).

While the strategies to maintain time and create space for exploration varied, the entrepreneurs across the board showed a capacity to take a step back from the certainty and proximity of exploitation in order to search for ideas, markets and relations with less certain outcomes, longer-term horizons and less certain effects. In addition, the capacity to take a step back was observed not only in the entrepreneurs themselves, but also in employees. Consequently, the execution of exploration and exploitation actions was divided unevenly between the members of an organisation.

**Behavioural pattern 3: nurturing platforms for discussing exploration and exploitation-related issues**

Four of the six entrepreneurs created platforms (e.g. regular team meetings, project meetings, spontaneous conversations, video conferences) allowing themselves and their colleagues to discuss both improvements for the existing business and ideas for new business opportunities. Such platforms or occasions included video team discussions (#1) and staff meetings, where participants shared and discussed issues related to the operating business and (potential) new projects. We recognised that issues related to exploration surfaced, even though this was not necessarily part of the agenda. Besides team meetings and team discussions, the entrepreneurs also used one-to-one conversations to reflect on and debate new ideas. In the cases in which the observed entrepreneur was part of a founding team (#1, #6), the co-founders formed a sounding board for discussing issues related to exploitation or exploration. One of the entrepreneurs engaged people from other subsidiaries located in foreign countries to discuss new business opportunities (#6). Often these one-to-one conversations were spontaneous discussions, allowing the entrepreneurs to think out loud and reflect on ideas in a very early state.

A variety of measures were deployed to create and foster a collaborative, flat hierarchy atmosphere. Overall, the entrepreneurs kept an open door for employees who came in with new ideas (#1, #6); some went as far as never closing their office doors, even for important calls. Overall, it was observed that the consideration of both exploitation-and exploration-related issues in regular
meetings, spontaneous encounters or talks with employees and co-founders appeared to be a ‘normal’ part of working life.

**Behavioural pattern 4: engaging in convergent and divergent thinking**

The entrepreneurs engaged in activities which sustained both convergent and divergent thinking. When pursuing convergent thinking activities, they typically focused on clear problems and were looking for well-known solutions quickly. Order, simplicity, routine, clear responsibilities and predictability were the bases of convergent thinking actions and behaviours.

Conversely, divergent thinking focused on broadening the context of decision-making. Essentially, the entrepreneurs drew on three central skills – conversation, observation and reflection – to develop new ideas or identify a solution to a specific problem (exploration). While promoting divergent thinking, the entrepreneurs typically provided plenty of information to stimulate people to ask the right questions; they also showed genuine respect for other people’s ideas and potential. In addition, all the entrepreneurs aimed to create and foster a culture encouraging participation by partners, co-workers, subordinates and other stakeholders. This capacity enabled the organisation to cope more effectively with challenges by allowing new ideas regarding exploration or exploitation issues to be voiced and debated freely, thus, ensuring that information flows both bottom-up and top-down.

Other specific observations included an entrepreneur actively involving lower-level employees in the development and the running of a new subsidiary, giving them the freedom to propose their own ideas and concepts, while coaching and guiding them on implications (#5). One of the entrepreneurs was excitedly involved in developing and improving new product versions, also showcasing innovations in front of employees not directly working in R&D functions (#1). We believe that this behaviour encouraged co-workers to come up with their own ideas and become excited about the multiple options for new business opportunities. Another entrepreneur fostered a participative culture by informing his co-workers about proposed changes in the company (e.g. new organisational chart and structure) and actively seeking feedback from his staff (#4).

Central to the pursuit of convergent and divergent thinking was the capacity to embrace conflicting perspectives and maintain cognitive tension. Furthermore, it seemed that the entrepreneur served as a role model; since he was bringing up thoughts and ideas freely for new business opportunities, his co-workers were encouraged to follow his example. It is dangerous, of course, to follow too many initiatives at one time. One of the entrepreneurs tackled this risk by closely tracking the achievement of new initiatives (#2).

**Behavioural pattern 5: switching back and forth between task-oriented and change-oriented activities**

All of the observed entrepreneurs switched quickly between task-oriented activities, such as dealing with immediate problems, monitoring operations and clarifying tasks and change-related issues, such as advocating for change, pursuing innovation and facilitating collective learning. In other words, they were able to switch quickly between exploration-related and exploitation-related actions as the current situation required.

Examples of individual behaviour related to exploration included taking the initiative for new product ideas (#6), exploring strategic partnerships for product development, working together with employees on new product development, cooperating with research institutions or researching current news and developments within and outside the industry. Examples of individual behaviour
linked to exploitation included actions related to human resource management, coordinating meetings, writing emails, disseminating information within the company and other administrative tasks.

Single actions were often short and sporadic, and changed in an abrupt, sometimes unpredictable manner. The brevity was increased in the absence of a gatekeeper preventing interruptions from employees who needed to clarify issues or asked information. Another reason for the extreme brevity was the usage of new media. As a result, all entrepreneurs needed to be extremely good at switching quickly between exploration and exploitation issues, redirecting their attention to something new or switching back to a task that they had left for a while. Quick switches between exploration and exploitation issues were caused, for example, by incoming telephone calls, unscheduled meetings or incoming emails that were immediately answered. However, switches also did happen without external interruptions. For example, entrepreneurs sometimes even switched between explorative and exploitative actions and topics during the same meeting or discussion (#4).

We believe that this ambidextrous behaviour on the level of the individual entrepreneur served two purposes. First, it ensured that exploration and exploitation projects or topics were initiated, followed up and moved forward. Flexible switching is a highly challenging task. These observations indicated that entrepreneurs need to show exploration and exploitation in an unpredictably alternating sequence. Not only must entrepreneurs handle the different requirements of new products, processes, routines and structures one at a time, they also must be able to switch between these requirements and the operative actions to exploit current product markets. Second, we believe that the entrepreneurs served as role models encouraging others to behave in a more ambidextrous way as well.

**Behavioural pattern 6: shifting the focus of the organisation from exploration to exploitation and vice versa, as the current situation requires**

In four of the six cases, it was found that the entrepreneurs redirected the focus from emphasising exploration towards emphasising exploitation from time to time. Typically, there were longer periods of exploitation which were interspersed with bursts of exploration. Thus, we can speak of temporal shifts of attention and resources to exploitative and explorative measures. This behaviour was identified during post-observational interviews. In one case, the entrepreneur explained that he changed organisational objectives from exploitation to exploration from time to time (e.g. to open a new subsidiary or enter a new business segment) (#2). In two other cases, the entrepreneurs reported that they adjusted the level of exploitation and exploration to the respective company phase (#1, #3). In one of the cases, the first years were focused mostly on developing products, and thereafter shifted to selling and expanding internationally (#3). The following quote from entrepreneur #4 further substantiates the relevance of this capacity:

> We have to understand and deploy past experiences while staying focused on current execution and, at the same time, shape the future. The greatest challenge for me is to enable the organisation to achieve the right balance between these two objectives. (Entrepreneur, robotics)

For example, this meant focusing on developing products and getting them to market during the starting phase of the company, and providing after-sales services to upgrade software and maintain ageing machines in growth phase (#4).

This observed capacity aimed to ensure that the organisation was dedicating its resources to activities creating sustainable value in the long term. As a result, this means that the focus of the ambidextrous organisation on exploration and exploitation actions changes over time.
Discussion

**Ambidexterity: dualism or duality?**

At the micro-level of discrete actions performed by entrepreneurs, we were able to identify whether this action is of an explorative or exploitative nature. Thus, following March (1991), the observation allowed us to see exploration and exploitation behaviour in a mutually exclusive manner. This dualism suggests that entrepreneurs engage in either exploration or exploitation action at any one time, and that this inevitably creates a tension, as they must decide how to allocate their time and set priorities between conflicting demands. Overall, the results indicate that the trade-offs to balance this tension are tilted toward exploitation.

Three reasons are observed for this imbalance. First, as March (1991) suggested, the returns from exploration are more uncertain, more distant in time and organisationally more distant from the locus of action and adaptation. Second, exploitative activities tend to provide fast, positive feedback in the form of customer demand, and profits produce path dependence (Gupta et al., 2006; Levinthal and March, 1993). Third, entrepreneurs often get ‘sucked into’ operational activities. Across the sample, as mentioned previously, it was observed that there was often no gatekeeper preventing interruptions from employees who needed to clarify issues or asked for further information to solve problems.

However, individual ambidexterity is the ability to pursue both exploration and exploration with equal dexterity rather than the pursuit of an equal amount of exploration and exploitation activities. At a broader level – extending the timeframe beyond a single action – it becomes evident that the entrepreneurs engage in a multiplicity of actions and activities, and that they frequently switch between exploration and exploitation behaviours. Therefore, consistent with previous studies (Gupta et al., 2006; Turner et al., 2012), it is possible to treat exploration and exploitation as simultaneously achievable, and thus for all practical purposes, orthogonal. Similarly, Farjoun (2010) suggested that ambidexterity is essentially a duality in which stability and change are fundamentally interdependent: contradictory, but also mutually enabling. He rightly pointed out that at the task level, ‘individuals engaged in routine tasks exercise some degree of experimentation and those engaged in creative tasks use routines to some degree.’ (Farjoun, 2010: 218).

While there is a consensus in the literature that ambidexterity results from the balance between exploration and exploitation, it is not clear whether the proportion of explorative activities in an organisation should be the same as the proportion of exploitative ones. In the terminology of capabilities, O’Reilly and Tushman (2008) merely recognise that dynamic capabilities are reflected in the organisation’s (and its constituents’) abilities to maintain what they refer to as ‘ecological fitness’.

**Navigating the tension between exploration and exploitation**

As mentioned previously, these results suggest that entrepreneurs have to manage an inherent tension between exploration and exploitation. By recognising the continuing existence of underlying tensions, paradox theory points to the need for dynamic, adaptive organisations and flexible, improvising routines (Lewis, 2000; Smith and Lewis, 2011) ‘Paradox’ denotes contradictory yet interrelated elements, both of which are real and true, and both of which exist side-by-side in the same environment, at the same time (Lewis, 2000). The entrepreneurs were typically juggling different roles in order to navigate this tension. They could pursue exploration roles by being proactive, discovering and shaping opportunities one moment, only to take on an exploitative role when dealing with mundane operational tasks the next minute. For example, they acted
as visionaries when they were shaping the future of their organisations and articulating strategy. In another explorative role, they acted as discoverers while actively searching for new business opportunities, showing alertness and encouraging experimentation. In steering the firm, they were providing a framework (e.g. a set of rules, commonly held norms and beliefs) to channel the fantasy and creative energy of their employees and business partners. In other words, they sought opportunities, tolerated deviations from previously made plans and opportunistically adopted novel and better ways to do things – but also knew when to say no in order to prevent chaos.

In other roles, they focused on exploration, taking care of immediate operational issues, emphasising efficiency and consistency. As a frontline worker, the entrepreneur is personally involved in producing goods or delivering a service. At times, customers expected to deal with the entrepreneur and assumed that they would be directly involved in the planning, production and/or delivery process. As a controller, the entrepreneur could passively monitor goal attainment or actively structure the task of their team members or correct errors. As a troubleshooter, the entrepreneur ‘rolled up their sleeves’ to resolve the problems at hand.

Fulfilling these roles requires specific behaviours and competencies. The behaviours and competencies identified in this study allow the entrepreneur to maintain a dynamic balance between exploration and exploitation, and complement the characteristics of ambidextrous managers which have been identified in past research. For example, behaviour patterns 1–4 indicate that ambidextrous entrepreneurs host contradictions (Gibson and Birkinshaw, 2004; Smith and Tushman, 2005). That is, they have the motivation and ability to be sensitive to, understand and pursue a range of seemingly conflicting opportunities, needs and goals (O’Reilly and Tushman, 2004).

The results are also consistent with the stream of literature which suggests that ambidextrous managers are multitaskers; that is, they can divide their time between alignment- and adaptability-oriented activities and therefore, fulfil multiple roles (Gibson and Birkinshaw, 2004). Consistent with Floyd and Lane’s (2000) findings, the ambidextrous entrepreneurs in the present study were required to play multiple strategic roles, and to shift from deploying existing competencies to developing new ones in response to market conditions.

In line with the leadership literature (Cao et al., 2010; Gupta et al., 2004), it is suggested that entrepreneurs must be able to lead their teams to match the complexity and the pace of innovation. Like Rosing et al. (2011), we found evidence that entrepreneurs also may actively engage in exploration and exploitation activities. In doing so, they have to display both ‘opening behaviours’ (encouraging doing things differently, giving room for independent thinking) and ‘closing behaviours’ (taking corrective action, setting guidelines and monitoring goal achievement) (Rosing et al., 2011: 957).

Finally, behaviours and competencies are hard to disentangle from the organisational context at times. For example, the capacity to shift the focus of tasks from exploration to exploitation and vice versa, as the current situation requires (behaviour pattern 6) can be assimilated into organisational vacillation. This approach advocates modulating between structural orientation focused on exploration, and structural orientation focused on exploitation (Boumgarden et al., 2012).

**Conclusion**

This article builds on the organisational ambidexterity strand of literature and makes a contribution to the literature by shedding light on ambidexterity at the individual level. More specifically, it provides a synthesis of entrepreneur behaviours and competencies to achieve ambidexterity by investigating the everyday behaviour of six growth-oriented SME owner-mangers.
The findings indicate that while the micro-behaviours of entrepreneurs fit the views of exploration and exploitation as two seemingly opposing tasks (suggesting a dualism), these behaviours in fact do coexist at a broader level (emphasising duality). We could establish that growth-oriented entrepreneurs show an ability to pursue both exploration and exploitation, although the vast majority of activities are related to exploitation. Not only must entrepreneurs handle the different requirements of new products, processes, routines and structures one at a time, but they also must be able to switch between these requirements and the actions to exploit current product markets and increase efficiency here and now.

As such, the results complement the view of contextual ambidexterity (Gibson and Birkinshaw, 2004). The entrepreneurs at the helm of the growth-oriented SMEs that were studied decided on the way to divide their time between the conflicting demands for exploration and exploitation through specific sets of competencies. For SMEs, contextual ambidexterity is especially relevant, since they might experience difficulties in achieving ambidexterity through separate structures for exploration and exploitation due to a lack of slack resources and costly installation (Lubatkin et al., 2006).

The findings also should be of interest for entrepreneurs, as the autonomous nature of entrepreneurial work calls for self-reflection. The lack of any formal job description and different requirements from external and internal actors challenge entrepreneurs to consciously decide how to spend their time. Managing time, prioritising and delegating are three areas which entrepreneurs need to consider in order to engage in the ‘right’ entrepreneurial behaviour. Similarly, the role of the entrepreneur is essentially one of communicating. To be effective communicators, entrepreneurs have to be conscious that communication can be used for different goals, such as to inform, to persuade others and to understand their views or to build relationships.

Limitations of the study

It should be recognised that there are a number of limitations to this research, many of which suggest further opportunities for research. One limitation is its generalisation, as the study is derived from the relatively small sample size of six entrepreneurs. It cannot be claimed (or indeed shown) that this sample size was big enough to reach saturation (Glaser and Strauss, 1967). Nevertheless, it is important to remember that the study was able to build a rich database comprising 2305 units of action performed by these six entrepreneurs, and that past studies using structured observations have drawn on very small samples. In comparison, Mintzberg’s (1973) seminal work on managerial work relied on a sample of five managers. Moreover, the heterogeneity of the sample might constitute an issue. In order to identify job patterns and attributes that are valid for entrepreneurs, regardless of the industry they are operating in, this study purposefully selected entrepreneurs from different industries. By making this decision, the possibility was lost to analyse whether variances in the results originate from the individual, or from the environment in which the entrepreneur is working.

A second limitation is the limited duration of the observations conducted. Although the data were collected over several – not necessarily consecutive – days, this study gives little consideration to the influence of time. An entrepreneur in a given environment does not continually engage in the same activities; their job varies according to many situational factors, such as adjustments to the business plan, new financing rounds, periodic expansion programmes or periods of crisis. In addition, entrepreneurs gain experience in their jobs and they might change their working behaviours.

It is hoped that this research will be followed by more empirical studies focusing on entrepreneurs’ ambidexterity. We concur with Turner et al. (2012), that there is still much to be
done to obtain a granular understanding of the micro-mechanisms enabling ambidexterity. In ethnographic case studies, where researchers could monitor the actions of entrepreneurs over a longer period of time, are required. This approach also could provide an insight into the orchestration between entrepreneur behaviour, team dynamics and organisational processes and structures.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

References


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