A Framework for Analysis of Ambidexterity and Performance in Small-to-Medium-Sized Firms

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Ambidextrous organizations provide a practical model for forward-looking executives seeking to pioneer disruptive innovations while pursuing incremental gains. The relationships described in this study are based on the organizational-context literature, in particular Ghoshal and Bartlett's (1994) framework for organizational effectiveness, suggesting that contextual ambidexterity emerges when owner-managers in a business unit develop a supportive organization context. This perspective suggests that superior business-unit performance is not achieved primarily though charismatic leadership nor through some formal organizational structure, nor strong company culture; but rather through building a rational set of systems and processes that collectively define a context that allows the transcending capabilities of alignment and adaptability to flourish simultaneously, thereby sustaining business unit performance.

Keywords: Contextual ambidexterity, organizational context, organizational performance

INTRODUCTION

In this age of entrepreneurial turbulence, sustainable firm advantage will increasingly depend on the ability of individuals and organizations to innovate, innovation being the continuous development of something new, which largely depends on the creativity, knowledge, and skills of individuals. Being an opportunity-focused approach to venturing, entrepreneurship requires a creative state of mind that can see a way around impossible barriers and react to unexpected problems and opportunities along the way (Crawford, 2000).

Purewal and Seidle (2002) believe that organizations can promote the simultaneous pursuit of two broad streams of innovation. The first capability creates the technical and market expertise needed to produce incremental improvement in existing product lines, in which current knowledge and expertise are leveraged to benefit the company in current markets. The second capability, labeled discontinuous innovation by Tushman and O'Reilly (1996), involves the creation of revolutionary products or services outside the current field of expertise. This would allow the company to identify new offerings that will sustain growth and profitability, after a present product line has become obsolete due to changes in technology and market shifts. In short, by establishing innovative tension, the organization also embraces the dynamic tension between

incremental and discontinuous innovation inherent in an ambidextrous organization.

In the current hypercompetitive business environment, any competitive advantage will be short-lived. To flourish over the long run, most companies need to maintain a variety of innovation effects. They must constantly pursue incremental innovations – small improvements on their existing products – and deliver greater value to the customer. This is known as continuous innovation. Finally, businesses need to come up with discontinuous innovations – radical advances, like digital photography – that deeply alter the basis for competition in an industry, often rendering old products or ways of doing things obsolete.
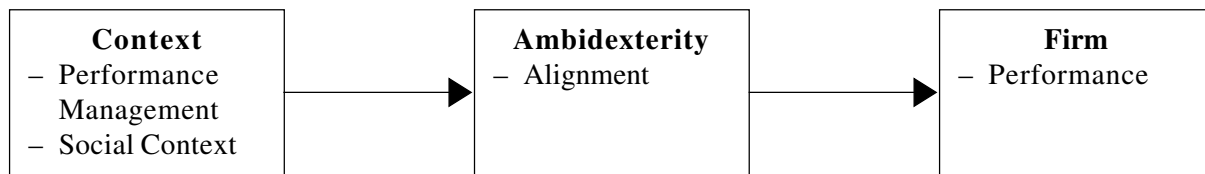
When it comes to launching breakthrough products or services, ambidextrous organizations are significantly more successful than other structures (O'Reilly and Tushman, 2004). In an ambidextrous organization, breakthrough efforts are organized as structurally independent units, each having its own processes, structures, and cultures, but integrated into the existing senior management hierarchy.

THE PROPOSED MODEL

Building on the organizational context literature of Ghoshal and Bartlett (1994), the framework for organizational effectiveness as shown in Figure 1 suggests that contextual ambidexterity emerges when owner-managers develop a supportive organization context. According to this perspective, superior business performance is achieved by building a carefully selected set of systems and processes that collectively define a context which allows the transcending capabilities of alignment and adaptability to simultaneously flourish and thereby sustain superior business performance.

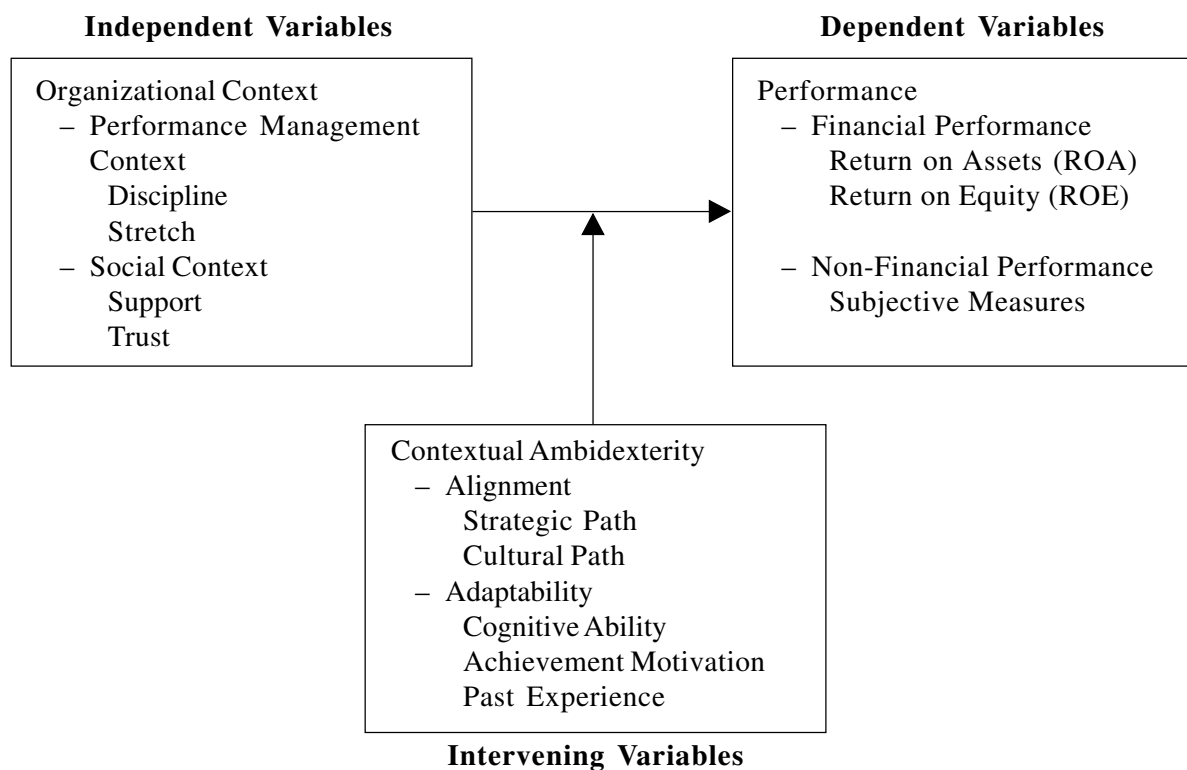*Figure 1*. **Organizational ambidexterity conceptual framework.**

The model being proposed (see Figure 2) for the organizational ambidexterity conceptual framework above is composed of three variables: (1) a set of independent variables labeled *organizational context*; (2) a set of dependent variables labeled *organizational performance*; and (3) a set of mediating variables for ambidexterity.

The framework suggests that *organizational context* will be measured by developing multi-item scales to represent the dimension of discipline, stretch, support, and trust identified by Ghoshal and Bartlett (1994). A previous study by Gibson and Birkinshaw (2004) revealed that it was not possible to identify four distinct constructs using these items. Instead, two factors were identified.

One represents a combination of discipline and stretch, which we shall refer to as *performance management context;* another represents a combination of support and trust, which we shall refer to as *social context*.

The dependent variable, *performance*, will be measured by both non-financial outcomes (i.e. the business is achieving its full potential and other subjective business performance), and financial measures of performance like return on assets (ROA) and return on equity (ROE) over a five-year period for each company. These relative measures of financial performance will be correlated with subjective performance indicators as rated by senior managers to lend external validity to the subjective performance measure.

**Figure 2. The proposed model for ambidexterity and
performance in small-to-medium-sized firms.**

Independent Variables

Organizational Context
– Performance Management
Context
Discipline
Stretch
– Social Context
Support
Trust

Dependent Variables

Performance
– Financial Performance
Return on Assets (ROA)
Return on Equity (ROE)

– Non-Financial Performance
Subjective Measures

Contextual Ambidexterity
– Alignment
Strategic Path
Cultural Path
– Adaptability
Cognitive Ability
Achievement Motivation
Past Experience

Intervening Variables

The intervening variable is the *contextual ambidexterity* that mediates the relationship between the four attributes of organizational context and subsequent firm performance. The reason for hypothesizing a mediating effect is that contextual ambidexterity is seen as a transcending capability that is developed gradually over time through the interaction of the attributes of organizational context (discipline, stretch, support, and trust). The dimensions of contextual ambidexterity to be used are strategic goals/objectives/activities and cultural values/practices/behavior for *alignment capacity*; and cognitive ability, achievement motivation, and past experience for *adaptability capacity*. Each variable indicator is operationally defined as follows:

1. *Organizational context* – the system, process, and beliefs that shape individual-level behaviors in an organization (e.g. discipline, stretch, support, and trust).

2. *Discipline* – an attribute of context, inducing individuals to voluntarily strive to meet expectation.

3. *Stretch* – an attribute of context, inducing members to voluntarily strive for more ambitious projects.

4. *Support* – an attribute of context, inducing members to lend assistance to others.

5. *Trust* – an attribute of context, inducing members to rely on the commitments of each other.

6. *Performance management* – the combination of discipline and stretch.

7. *Social context* – the combination of support and trust.

8. *ROA* – return on assets as a measure of financial outcome.

9. *ROE* – return on equity as a measure of financial outcome.

10. *Subjective measures* – e.g. if business is achieving its full potential; if people are satisfied with firm performance; if the business does a good job of satisfying customers.

11. *Alignment* – the coherence among all the patterns of activities in the firm, i.e. if they are working together toward the same goals.

12. *Adaptability* – the capacity to reconfigure activities in the firm quickly to meet changing demands in the task environment.

13. *Strategic path* – emphasizes "what" needs to be done; the strategic goals/objectives/activities to meet the vision and mission of the firm

14. *Cultural path* – emphasizes "how" things should be done; the values/practices/behavior that will guide people to carry out the vision and mission of the firm.

15. *Cognitive ability* – conceptualization of intelligence or ability to modify one's behavior to deal effectively with a wide variety of different and changing situations.

16. *Achievement motivation* – one's desire to achieve results and master tasks beyond others' expectations.

17. *Past experience* – essentially a bio-data instrument designed to sample adaptive behavior similar to those encountered on the job.

PROBING THE MODEL

Typically, authors have viewed ambidexterity in structural terms. According to Duncan (1976), who first used the term, organizations manage trade-offs between conflicting demands by putting dual structures in place, so that groups within business units focus on alignment, while others focus on adaptation. Duncan referred to this as *structural ambidexterity*. However, in organizations, scholars have recognized the importance of simultaneously balancing seemingly contradictory innovative tensions for present and future success; and have begun to shift their concentration from trade-off (either/or) to paradoxical (both/and) thinking (Bouchikhi, 1998; Earley & Gibson, 2002; Lewis, 2000; Morgeson & Hoffman, 1999).

The perspective role of the process and systems present in a given context to achieve the desired balance between opposing demands is also being recognized. These processes and systems provide an alternative way of developing the capacities that architectures or structures intend to create (Brown & Eisenhardt, 1997; Marks, Mathien, & Zacarro, 2001). Form these insights, Gibson and Birkinshaw (2004) developed the concept of *contextual ambidexterity* – contextual because it arises from features of its organizational context.

Gibson and Birkinshaw define contextual ambidexterity as the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit. Alignment refers to the coherence among all the patterns of activities in the business unit (i.e. they are working together toward the same goals); adaptability, on the other hand refers, to the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment.

Organizational alignment requires compatibility between strategic and cultural paths and consistency within them (Tosti & Jackson, 2000). The strategic path emphasizes: what needs to be done or the strategic goals the organization will work forward, the objectives that groups and individuals must accomplish to carry out those strategies, and the activities that must be performed to meet goals and objectives. The cultural path, meanwhile, emphasizes how things should be done. These are values that will guide people in carrying out the mission and vision, the practices that reflect those values, and the specific behavior patterns which represent the values and practices to others. In other words, those values reflect how an organization intends to conduct its business.

In predicting adaptive performance, Pulakos et

al. (2002) found in their study that cognitive ability, achievement motivation, past experience, and willingness to learn new things are significant predictors of adaptive performance.

In their study, O'Reilly and Tushman (2004) examined 35 different attempts at breakthrough innovation, and discovered that businesses tend to apply one of four organizational designs to develop and deliver their innovations. More than 90% of those using the ambidextrous structure succeeded in their attempts; while none of the cross-functional or unsupported teams, and only 25% of those using functional designs, reached their goals.

O'Reilly & Tushman likewise found that some companies have actually been successful at both exploiting the present and exploring the future. They also observed that those companies share important characteristics: they separate their new exploratory units from the traditional, exploitative ones; and they develop different processes, systems, structures, and cultures. They are also tightly integrated at the senior executive level. This organizational separation is managed through a tightly integrated management team.

Contextual Ambidexterity in Organizations

It is traditional in the organizational literature to refer broadly to ambidexterity as an organization's ability to pursue two disparate things at the same time, such as manufacturing efficiency and flexibility (Adler, Goldoftas, & Levine, 1999; Carlsson, 1989); and low-cost and differentiation strategic positioning (Porter, 1980; Porter, 1996). More importantly, ambidextrous organizations also adapt effectively to changing environmental demands.

Another ambidextrous activity is global integration and local responsiveness, which will generate discussions as to whether internal organizational tensions can ever be effectively reconciled, such as those between alignment and adaptability (Ford & Ford, 1994; Lewis, 2000). The trade-off between low-cost and differentiated positions is insurmountable, according to Porter (1996). Proponents of this typical point of view have argued that trade-offs are best managed through structural separation, which ensures that each organizational unit is configured to the specific needs of its task environment (Burns & Stalker, 1961; Lawrence & Lorsch, 1967). However, this creates coordination costs.

A second perspective that has appeared in the literature on ambidexterity is the idea that organization can create structures and systems to reconcile seemingly contradictory tensions. An example in point is in the manufacturing literature where flexibility and cost efficiency are no longer considered as contradictory (de Meyer, Nakane, Miller, & Ferdows, 1989; Macduffie as cited in Gibson & Birkinshaw, 2004). To achieve this may involve task partitioning within a single business unit, whereby one group adopts an "organic" structure while another takes on a "mechanistic" structure (Adler et al., 1999). Temporal separation is another structural solution put forward by Adler et al. (1999), Duncan (1976), and McDonough and Leifer (1983), in which an entire unit focuses on one set of tasks one day, then on a different set of tasks the next. These approaches allow the competing demands of alignment and adaptability to be met within a single business unit, thus removing many of the coordination costs mentioned above. However, these approaches still rely on structural solutions where unit managers are left to judge how best to divvy up the work, and the period of time to meet those different needs (structural ambidexterity).

On the other hand, Gibson and Birkinshaw (2004) developed a different perspective which focuses on contextual ambidexterity. They concur with the previously mentioned authors on the idea that ambidexterity is the organization's ability within a single business unit to achieve alignment and adaptability. To Gibson and Birkinshaw (2004), ambidexterity is best achieved, not through structural, task, or temporal separation; but through building a business unit context that encourages individuals to make their own judgments as to how best to divide their time between conflicting demands for alignment and adaptability. Contextual ambidexterity therefore can be viewed as meta-level capacity for alignment and adaptability that permeates all functions and levels in units; rather

than as a dual structure (Duncan, 1976) in which the two demands are kept separate.

Gibson and Birkinshaw (2004) maintain that when contextual ambidexterity is achieved, not only can every individual in a unit deliver value to existing customers in his or her own functional area; but they can also be on the lookout for changes in the task environment, and act accordingly. Potentially, this model is more sustainable than structural separation because it facilitates the adaptation of the "entire" business unit, not just the separate units or functions responsible for new business development. It also avoids the costly coordination costs related to structural separation approach. In other words, although ambidexterity is a characteristic of a business unit as a whole, it manifests itself in the specific actions of individuals throughout the organization (Gibson & Birkinshaw, 2004). In short, contextual ambidexterity is dynamic and flexible enough to allow ambidextrous behavior that is both aligned and adaptable in a sustainable manner.

Ambidexterity and Performance

It is argued that if ambidexterity is conceptualized in the way described above, it is more conducive to sustainable performance, while alignment activities are geared toward improving performance in the long run. Therefore, focusing on one of these at the expense of the other will give rise to tensions and problems. Argyris (1993) claimed that such tensions start from ambiguous messages constructed at the firm level. Lewis (2000) claimed that this situation creates suppression on one side, while intensifying pressure from the other side of a polarity. As a result, defensive behavior of actors to ease frustrations and discomfort will produce temporary positive effects, but eventually foster opposite, unintended consequences that intensify the underlying tensions, creating what Hofstadler (1979) referred to as a strange loop.

To some authors, solutions to this predicament may include acceptance of the dual tension or confrontation of the tensions; and transcendence or the perception of opposites as complementary

and interwoven (Denison, Hooijberg, & Quinn, 1995; Lewis, 2000; Schneider, 1990). A similar argument was put forth by March (1991) in relation to the need for both exploitation and exploration, suggesting that simultaneous development of the two activities is a primary factor in system survival and prosperity.

Under this conceptualization, the only countervailing factor is likely to be the costs of implementing the system, and the process that will achieve ambidexterity. However, the findings of Looy, Martens, and Debackere (2005) on conditions where ambidextrous organizations can outperform focused firms, considered prerequisites for their sustainability. It revealed the relevancy of adopting extended timeframes as well as introduction of interface management practices aimed at cross-fertilization; including the synergetic potential of underlying technologies as necessary in order for ambidextrous organization to become sustainable.

Gibson and Birkinshaw (2004) found a strong positive correlation between alignment and adaptability, indicating that business units can achieve both simultaneously. Further, the findings indicate that alignment, adaptability, and their interaction (ambidexterity) were significantly and positively correlated with performance, with ambidexterity demonstrating the strongest correlation. Likewise, performance management context, social context, and their interaction (organizational context) were significantly and positively related to performance.

The hypothesis that the higher the level of ambidexterity (i.e. the multiplicative interaction of alignment and adaptability), the higher the level of performance has been found positive and significant.

Antecedents of Ambidexterity

The question of how a business unit becomes ambidextrous has drawn Adler et al. (1999) to point to worker training and trust in relationships with management as key facilitators. Tushman and O'Reilly (1996) identified as the key sources of ambidexterity: a decentralized organizational structure, a common culture and vision, supportive

leaders, and flexible managers. Bartlett and Ghoshal (1989) highlighted shared vision, recruitment and selection, training, and career path management of executives.

As suggested by this study, the capacities of alignment and adaptability are developed through the creation of a specific type of organizational context at the business unit level. Organizational context refers to systems, processes and beliefs that shape individual-level behavior in an organization (Burgelman, 1983a, 1983b; Ghoshal & Bartlett, 1994). This point of view coincides with that of Ghoshal and Bartlett (1994) who defined organizational context in terms of behavior-framing attributes: discipline, stretch, support, and trust. Discipline induces members to voluntarily strive to meet all expectations generated by their explicit and implicit commitments. Stretch induces members to voluntarily strive to meet all expectations generated by their explicit and implicit commitments; and voluntarily strive for more ambitious objectives. Support refers to development of shared ambitions, collective identity, and personal meaning to achieving organizational purpose contribute and countenance to others (allowing access to resources, freedom of initiative at lower levels, managers providing guidance rather than exercising authority). Trust induces members to rely on the commitments of each other (e.g., fairness and equity in decision making, staffing with people possessing required capabilities).

Ghoshal and Bartlett conceptualize these four attributes (discipline, stretch, support and trust) as interdependent. To encourage individuals to push for ambitious goals, an organization, according to them, needs to foster discipline, and stretch; but it also needs support and trust to ensure that this happens within a cooperative environment. Ghoshal and Bartlett (1997) conceptualized organization context in terms of "the yin and yang of continuous renewal" or a balance between a pair or combination of hard elements (discipline and stretch, or performance management context), and a pair or combination of soft elements (support and trust, or social context). They argued that too much of the hard elements create burnout and disillusionment among employees, and too much

emphasis on the soft elements creates a "country club" atmosphere in which no work gets done. Ghoshal and Bartlett (1994) also described discipline, stretch, support, and trust as engendering individual-level behavior that result in initiative, cooperation, and learning; individuals take these actions on their own volition.

In this study, I extend Ghoshal and Bartlett's framework by arguing that when a supportive organization context is created, individuals engage in both alignment (exploitation-oriented actions) and adaptability (exploration-oriented actions that result in contextual ambidexterity; which, in turn, subsequently enhances performance.

On the issue of exploiting and exploring, O'Reilly and Tushman (2004) claimed that to flourish over the long run, most organizations need to maintain a variety of innovation efforts. Exploiting involves constantly pursuing incremental innovations or small improvements in the existing products and operations that will make them operate more efficiently and deliver ever greater value to customers (e.g., increase engine horsepower, enhance fuel efficiency, or improve reliability). Exploring on the other hand, includes making architectural innovations, applying technological or process advances to fundamentally change some components or elements of their business (e.g., data communication capabilities if the Internet allows a bank to shift its customer-service call center to a low labor cost country like India or the Philippines). Exploring also pertains to discontinuous innovations or radical advances which build on ideas outside the realm of current core competencies (e.g., digital photography) that profoundly alter the way to compete in an industry, often rendering old products obsolete.

In view of the previous literature, Gibson and Birkinshaw (2004) argued that discipline, stretch, support, and trust are interdependent, complementary features of organizational context that are non-substitutable; therefore, all four must be present in order for the company to become ambidextrous, and subsequently to perform well. In their findings this hypothesis was supported.

Innovation Stream and Organizational Adaptation

Organizational adaptation is a firm's ability to continue to exploit its current capabilities as well as explore future opportunities (March 1991; Levinthal & March, 1993). A manifestation of a company's ability to explore and exploit is its ability to initiate innovation streams (Katila & Ahuja, 2002; Tushman and Smith, 2002). Innovation streams are innovation portfolios that include both incremental innovations in a firm's existing products as well as more radical innovation that extends a firm's success into a different market (Abernathy & Clark, 1985; Eisenhardt & Tabrizi, 1995; Venkartraman & Lee, 2004).

Where exploitation is associated with tight controls, structures, culture, and disciplined process, exploration is associated with looser controls, structures, and more flexible processes, and search behaviors (Quinn & Cameron, 1988; Burgelman, 1991; Leonard-Barton, 1992).

Mediation Effects

The organizational ambidexterity conceptual model in Figure 1 proposes that contextual ambidexterity mediates the relationship between the four attributes of organizational context and subsequent company performance. Gibson and Birkinshaw (2004) claimed that when ambidexterity has not been developed (i.e., when an organization has not developed the simultaneous capacities for alignment and adaptability), the context characteristics may or may not influence performance. The reason for hypothesizing a mediating effect is that contextual ambidexterity is seen as a transcending capability that is developed gradually over time through the interaction of the various aspects of an organization context.

The literature gives a useful analogy to contextual ambidexterity, which is the market orientation construct in the field of marketing (Deshpande, 1999; Jaworski & Kohl, 1993; Narver & Slater, 1990). But the process of developing market orientation in a firm is recognized to be complex and casually ambiguous. Techniques such as high-quality market intelligence do not have a direct effect on performance; rather they contribute to the overall market orientation of a company, which in turn leads to performance.

The mediating effect of contextual ambidexterity occurs because the attributes of context (discipline, stretch, support, and trust) themselves can create internal tensions if they do not contribute to the simultaneous capacities for alignment and adaptability that comprise ambidexterity. An example of this came from Edmonson, Bohmer, & Pisano (2001) when they said that the more managers focus on discipline, the less they are seen to be supportive of risk taking, and the less trusting of the climate, thus inhibiting learning. Hatch and Erhlich (1993) pointed to similar struggles (e.g. to fulfill increasing demands for profit, managers sought to protect corporate assets from being squandered; but by implementing security mechanisms, they contradicted their messages of trust and cooperation.

Finally, Lewis (2000) claimed that in the end, managing tensions denotes not compromise between flexibility and control, but awareness of their simultaneity; thus emphasizing the coexistence of authority and democracy, discipline and empowerment, and formalization and discretion.

The study of Gibson and Birkinshaw (2004) found support of the hypothesis that ambidexterity mediates the relationship between context as captured by the interaction of discipline, stretch, support, and trust, and company performance.

Measuring Firm Performance

The dependent variables will be measured with items that require the owner-managers to reflect on performance for the last five years, and indicate the degree to which they agreed with the following possible subjective measures of performance: (1) if business is achieving its full potential; (2) if individuals are satisfied with the level of business performance; (3) if the firm does a good job in satisfying their customers; and (4) if the firm gives the opportunity and encouragement to enable the individual to do his/her best work.

Financial performance indicators for each firm in a particular industry or industry groups can be calculated. These include return on assets (ROA), return on equity (ROE), and owner or shareholder return over a five-year period for each company. Further, this approach provides confirmation that owner-managers were reflecting on performance over a five-year period, as opposed to focusing on short-term gains. Lumpkin and Dess (1996) propose multiple performance measures that could include traditional accountancy measures such as revenue growth, market share, and profitability. Non-financial considerations may also be important, such as reputation, good will and public image, and the commitment and satisfaction of employees; as well as personal satisfaction/fulfillment from the business, and harmonious labor-management relations. These are considered as among the ultimate goals of entrepreneurs (Edralin, 1998).

CONCLUSION

In this study, I have developed the complementary concept of contextual ambidexterity, whereby a firm context encourages individuals to make their own choices in dividing their time between alignment and adaptability-oriented activities. Another conceptual development is the important role of senior managers in making an organizational context effective and in developing ambidexterity. Key executives play a critical role because they put systems in place that allow supportive contexts to emerge, which then shape individual behaviors. They can thus assume an interventionist role by, focusing on recognizing, encouraging and promoting new ideas.

In conclusion, the concept of simultaneously achieving the capacity for alignment and adaptability (contextual ambidexterity) at a business unit level is facilitated by a context characterized by a combination of discipline, stretch, support, and trust. Further, ambidexterity mediates the relationship between these contextual features and performance. As such, the concept

of contextual ambidexterity is highly promising for understanding the tensions, balances, and equilibrium that leaders must manage in organizational environments.

Encouraging a supportive organizational context that generates simultaneous capacities for alignment and adaptability may be a key source of sustainable competitive advantage for firms. Drawing on literature on organizational theory and strategic management, and on recent work on ambidextrous organizations, the literature argues that SMEs that embrace an ambidextrous organization structure, thus employing a combination of pro-profit and pro-growth oriented business strategies, are more likely to succeed than those that are not ambidextrous and employ only one of those strategies. I also argue that the execution of both pro-profit and pro-growth strategies gives rise to a sustainable venture.

The rationale is that some SMEs may focus on a pro-profit business model due to limited funding from personal savings, capital provided by family or friends, or short-term borrowing, since they want to generate profit to pay off their debts quickly. But such a short-term strategic view could lead to the oversight of competitors' strategic moves and market changes and the eventual loss of market share and long-term growth opportunity. On the other hand, preoccupation with a pro-growth business model could lead to growth of tomorrow's business at the expense of today's (Celly, Han, & Nia, 2007).

This study therefore, builds on resent research suggesting that superior firm performance and competitive advantage in both the short and long-term can be achieved when firms can manage contradicting structures, skills, and cultures simultaneously (i.e., ambidexterity).

Further research is recommended in the area of delineating the underlying features of organizational context that are most critical in developing contextual ambidexterity in order to sustain firm performance in a dynamic economic background. Likewise, systematically examining the behavior of owner-managers and executives to help create ambidexterity is suggested.

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