

## Appendix VI

### **An Exploratory Case Study of Leadership Styles and Dynamic Capabilities in Sustained High Performing Small US Information Technology Firms**

**EDINBURGH**  
BUSINESS SCHOOL  

---

HERIOT-WATT UNIVERSITY

T R Bussey  
Edinburgh Business School  
Heriot-Watt University  
Morehouse College

D MacLean  
Glasgow University

**Abstract:**

*Despite its significance the small firm remains one of the most poorly understood business entities surrounded by substantial myths and a certain degree of mystery (Gibb, 2000). Research literature largely ignores the issue of Small Medium Enterprises (SMEs) in terms of sources of firm specific advantages. Many strategy scholars are calling for more micro process research and the examination of the critical role of leadership, particularly research that focus on the detail processes and practices that constitute day-to-day activities of organizational life and which relate to strategic outcomes (Miller and Sardais, 2011; Johnson et al, 2003; Whittington, 2003). The focus of this research is an explorative investigation of the complexities of leadership styles and practices and its influence on sustained high performance as a strategic outcome.*

# **An Exploratory Case Study of Leadership Styles and Dynamic Capabilities in Sustained High Performing Small US Information Technology Firms**

## **Introduction**

This paper describes exploratory research at the interfaces of strategy process, content (Schendel, 1992) and leadership behaviour (Cyert, 1990; Senge, 1990). The aim of the research is to explore links between leadership behaviour and dynamic capabilities in influencing superior performance in small high technology firms. This research is of significance with respect to (1) the increasing role of small businesses in the global economy and (2) the importance of understanding the influence of the firm's leadership behaviour and practices on the ability of the organization as it seeks to attain sustained high performance in a very dynamic competitive environment.

According to Johnson et al, 2003, 'the economic environment has moved rapidly towards open markets, mobile labor and information abundance. Resources are increasingly tradable and security from market entry and strategic imitation is falling. In these fluid resource markets, sustainable advantage must lie in the micro assets that are hard to discern and awkward to trade. Profit, not just the devil, lies in the detail.' Built on the resource-based view of strategy (Barney, 1991; 2011) the dynamic capability framework (Teece et al, 1997; Helfat, 2000; Eisenhardt and Martin, 2000; Helfat et al, 2010; Teece, 2007) explain that capabilities necessary to sustain superior firm performance in an open economy with rapid innovation and globally dispersed sources of invention, innovation and manufacturing capability lies in a firms 'managerial capital'. This involves the firm recognizing problems and trends, directing and redirecting resources, and reshaping organizational structures and systems to create and address technological opportunities while staying in alignment with customer needs. From Teece et al (1997), a dynamic capability framework highlights three classes of capabilities necessary to sustain superior performance (1) managerial skills needed to sense opportunities (2) managerial skills needed to seize opportunities and (3) managerial skills needed to configure resources. The dynamic capabilities framework falls short of describing what reconfiguration looks like or how it happens in the firm. This paper is primarily concerned with the third category, the reconfiguration of internal resources and practices. As such, it aims to contribute to our understanding of both leadership behaviour (Cyert, 1990;

Senge, 1990) in strategy, i.e. the role of the strategist in strategic management and to the growing interest in the role of management action in what has been termed dynamic managerial capabilities (Helfat et al, 2007).

### **Theoretical Framework: Leadership and Dynamic Capability**

The essence of dynamic capabilities, according to Teece (2009), is the skills, processes, routines, organizational structures and disciplines that enable firms to build, employ and orchestrate intangible assets relevant to satisfying customer needs and which cannot be readily replicated by competitors. Teece (2009) went on to state that enterprises with strong dynamic capabilities are intensely entrepreneurial. They not only adapt to business ecosystems; they also shape them through innovation, collaboration, learning and involvement. Augier and Teece (2009) further pointed out: *'The innovation process requires active orchestration of both intangible and tangible assets by entrepreneurs and managers. This is true whether the context is the small or the large enterprise. Understanding this orchestration is the center stage in the emerging paradigm of dynamic capability....The dynamic capabilities framework invites further research into entrepreneurship, organizational learning, and the role of managers and leaders in enterprise performance.'*

This continual learning criterion of a dynamic capability bears some similarity to the idea of the *'learning organization'* coming from the organizational behaviour discipline. Peter Senge (1990) noted that in an increasingly dynamic, interdependent, unpredictable world, it is no longer possible for anyone to 'figure it all out at the top'. Senge (1990) warns that the old model, 'the top thinks and the local acts', must now give way to integrative thinking and acting at all levels.

While perhaps understandable for a concept in its infancy (Helfat and Peteraf 2009), the dynamic capability literature leaves something of a mysterious veil around the source of the 'dynamic' in the term 'dynamic capability'. More recent work helpfully points towards the role of management decisions in dynamic managerial capability (Helfat et al, 2007) and, specifically in relation to reconfiguration activities, towards 'asset orchestration' (Sirmon and Hitt 2009). This research seeks to extend the literature and practice surrounding dynamic managerial capability by proposing that the elements of dynamic managerial capability such as resource reconfiguration and process innovation are heavily dependent on leadership styles and practices.

The development of transformational leadership theory is well established and has been studied extensively. Research has identified a number of antecedents and

consequences related to the emergences and effects of transformational leadership. Transformational leadership has been found to be effective during organizational change (Herold et al, 2008; Caldwell et al, 2009). Several other studies, for example, have also shown that transformational leadership styles promote the processes for new and innovative products and practices (Oreg and Berson, 2011; Jensen et al, 2008, 2009). Research to date has not thoroughly studied leaders' behaviour in terms of a particular change and has not linked attributes of transformational leadership to the strategic change implementation process. There exist a significant gap in the understanding of the relationship between situational-specific change leadership and the effect of transformational leadership and their combined effects on the strategic change process which the dynamic capabilities literature seeks to understand. This paper investigates the influence of the attributes of transformational leadership of the entrepreneur-manager on the implementation of process innovation as an episode of strategic change in small organizations.

### **Research Design**

Since this study is of an exploratory nature the research design must be one that provides sufficient opportunity for observation. This strongly suggests a typical 'mode 1' case study approach, consistent with the recommendation of Yin (1994) and Meredith (1998) who states that case studies are well suited to research questions of the 'how' and 'why' variety. The research utilized a combination of the mode 1 and mode 2 management research (Huff, 2000; Huff and Huff, 2001). Deep understanding of the context developed over many years of involvement with these and similar firms is an essential attribute that helps the researcher to navigate context, understand the meaning of data, gain initial and follow-up access, focus on key aspect of inquiry and engage in reflective practices as called for in a more highly engaged mode 2 form of research and inductive theory building (Boje, 1991; Eisenhardt, 1989). Resembling the 'mode 2' styles of knowledge production (MacLean, MacIntosh, and Grant, 2002), the researchers were involved as action researchers in combination with the 'mode 1' case study method. Prior to the commencement of the active data collection phase of the study the researchers attended management meetings contributing opinions and suggestions and had the opportunity to observe and actively interact with the case study companies and their leaders. While direct involvement with the case study firms was prior to the commencement of the research this interaction and closeness provided the researcher context which according to Boje (1991) is essential for

interpreting narratives that occur in organizational settings and without participating in the organization, contextualizing a narrative meaning, is difficult if not impossible to grasp.

Selection of cases is an important aspect of building from case studies, the selection of an appropriate population controls extraneous variation and helps define the limits for generalizing the findings (Eisenhardt, 1989). Since the focus of this study is the link of leadership behaviour to influence sustain superior performance this study clarifies the domain of the findings as small firms possessing dynamic capabilities. The researchers purposely selected small firms that possess sustained superior performance as defined by industry recognition and awards, and sustained periods of significant growth.

### **Case Study**

This study involved 5 case studies of sustained high performance small technology firms within the U.S federal contracting industry. The level of analysis was at the firm level experiencing an episode of change defined as the 'unit of analysis' of implementing a major process innovation and each participating firm's leader (entrepreneur-manager) involved in the implementation of the process innovation system. For this study a process innovation system was defined as a prescribed process improvement methodology leading to the attainment of certification or appraisal by an external third party examiner (e.g. Capability Maturity Model Integration (CMMI) maturity rating, or ISO 9001/20001 certification). Small companies were defined as having less than 300 employees. During the five months of data collection phase of this research 40 hours of interview discussions were recorded producing 484 pages of transcribed text. The researcher kept field notes of observations and follow up conversations. Company artifacts such as e-mails, meeting minutes, strategic plans, financial reports, newsletters, project plans, management reports and marketing collateral were reviewed and analysed. The initial phase of the data collection used formal but unstructured interviews with the entrepreneur-managers (leaders) and employees at various levels in the organization hierarchy and different functional areas. This creates a more complete picture of how the emerging theoretical constructs interrelate (Strauss and Corbin, 1990). Multiple informants reduce potential informant bias not only by letting a researcher triangulate (Miller, Cardinal and Glick, 1997) but also by adding complementary perspectives to the analysis. Whenever possible, independent confirmations of important statements

were sought through alternative data sources such as archival data or follow-up interviews.

Initial questions focused on the leader's actions to influence the decision or 'sensing' of the opportunity and implementation or 'seizing' of the process innovation as a dynamic capability (Teece 2009). To refine the theoretical perspective, follow up questions over time focused on the leader's actions to influence organizational routines the respondents highlighted as the most impactful (Rerup and Feldman, 2011; Cohen et al, 1996; Cyert and March 1963; Nelson and Winter 1982) results of the process innovation episode of change.

### **Towards a Theory of Leadership and Dynamic Capability**

This research seeks to extend the literature and practice surrounding dynamic managerial capability by proposing that the elements of dynamic managerial capability (Helfat et al, 2007) such as resource reconfiguration and process innovation are heavily dependent on leadership styles and practices.

This paper presents preliminary results from processes of analysis and inductive theory building of the emerging themes (Eisenhardt, 1989) such as the link between leadership behaviour and practices on the outcome of change processes, the repeatability and sustainability of these practices and their combined effects on sustaining superior performance in small firms. The paper lays out in detail the strategic context of the decisions to pursue a process innovation initiative and the practices of the leaders in influencing the medium and long term sustainability of the outcome of the process innovation initiative.

### **Contributions of the Study**

This paper makes three contributions to the literature and practice of strategic management. First, it proposes a theory explaining the link between leadership behaviour and sustained performance in small firms. Secondly, the study addresses a gap in the dynamic capabilities literature that implies that leadership is important but is vague on specifics and actual practice of leadership and thirdly, this study explores the specific leadership behaviour and practices that contributes to sustained high performance in small firms.

### **Preliminary Findings**

1. Contrary to the dynamic capability dominant view of change as episodic (Winter, 2003) the data from this research suggests change happens all the time. In the absence of dynamic capability it is dissipative. In the presence

of dynamic capability (leadership practices) it coheres and builds. The data shows multiple recurring leadership practices within specific long-term process innovations.

2. The dynamic capability framework highlights that the most critical capabilities needed by management, is to sustain the evolutionary and entrepreneurial fitness of the business enterprise (Teece, 2009). This research proposes that dynamic managerial capabilities (Helfat et al, 2007) are primarily concerned with the technical and evolutionary fitness. While dynamic leadership capability is primarily concerned with the entrepreneurial fitness and involves resource orchestration through patterned learning enabled by commitment, coordination and communication of a leader's strategic actions on a repeatable continuous basis.