

## **Dealing with Environmental Uncertainty: the Interplay between Formal Planning and Improvisation**

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### **Abstract**

*Increased environmental turbulence and threat of crises call for strategies which equip managers and their firms to deal with ever complex and unpredictable realities. Drawing on the two main approaches to strategy – planning and learning – this paper investigates the role of these approaches in making strategy which enables firms to respond to the fast changing environments. The main contribution of this paper is that it integrates a number of ideas and concepts which have previously been independently investigated. Research reported here concludes that in dealing with external uncertainty and crises, planning and improvisation can be used as complementary rather than confronting. In this approach, managers have the flexibility to shift from a formally planned certain path and to make real time adjustments to strategies according to the changes in the firm's external and internal environments keeping their firm within a chosen strategic direction.*

*Key words: crises management, strategic planning, emergent strategy, improvisation, environmental turbulence.*

### **Introduction**

Security of people, investments and facilities has always been an important concern of corporate governance. Particularly since the 9/11 and other international terrorism events security has become a key issue for corporate strategy and governance. The external environments in which today's corporations operate are characterized by rapid global change, growing complexity and increased uncertainty. In such an environment, organisations deal with unplanned situations which cannot be predicted in advance. As Tsoukas (1996: 22) describes the situation "firms are faced with radical uncertainty: they do not know, they cannot know, what they need to know". Hence, organisations are engaged in discovering the unknowable and their strategy has to assist them in this process in order to enable their firms to manage crises.

Two planning approaches continue to capture the imagination of strategy scholars. On the one hand the rational design or strategize, and on the other learning, organisational emergence or improvise. The planning approach (Porter, 1980; Prahalad & Hamel, 1990) emphasizes the importance of strategic analysis and forecasting tools. Those who support this view link successful performance of organisations to their ability to plan the future based on the past (Menon, Bharadwaj, Adidam, & Edison, 1999). There is strong research evidence that planning is a crucial aspect of high risk decision making (Sinha, 1990). In contrast, the 'learning school' (Ansoff, 1991, 1994; Fredrickson, 1984; Minzberg, 1990, 1991, 1994) argues that formal planning is ineffective in dynamic or high velocity environments. As Cunha (2004: 272) puts it, "the best performing organisations are those that act out of their future" and, in fact, "relying on the past is a threat to the future". In spite of these arguments, there is research evidence to suggest that

planning can improve firm performance in either dynamic or stable environments (Eisenhardt, 1989).

The purpose of this paper is to describe the characteristics of the 'rational design' and 'emergent process' approaches of strategy formation which are targeted at increased security of business and corporate responsiveness and adaptation to environmental turbulence. The study starts with investigating the role of strategic planning in assisting firms to deal with external complexity and uncertainty. It continues by exploring the role of the learning approach and, in particular, the ability of firms to improvise in making effective responses to environmental changes. In doing so, the study contributes to research on organisational improvisation and 'bricolage'. Finally, this paper concludes by providing evidence from the literature on how a combination of strategic planning and improvisation enables firms to plan and implement effective programs of crisis management.

### **The role of strategic planning (rational strategy)**

The value of formal planning has for a long time been of great interest in both the academic and practitioner oriented literature on strategic management (Hamel & Prahalad, 1994; Hammer, 1990; Porter, 1980; Prahalad & Hamel, 1990). The two main areas of such research include investigation of the impact of strategic planning on firm performance and the role of strategic planning in strategic decision making (Grant, 2003). From a performance perspective, formal planning procedures provide a discipline forcing managers to periodically take a careful look ahead. This entails rigorous communications about goals, strategic issues, and resource allocations and stimulates long term analyses that would otherwise not be made. Furthermore, such an exercise generates a basis for evaluating and integrating short term plans, lengthens time horizons and protects long term investments. In a decision making sense, which stresses the importance of the organisational process of strategy formulation referred to as design, formal planning procedures fine tune annual commitments, formalize cost reduction programs and help implement strategic changes (Quinn, 1978). Both of these areas of research (name these areas again for clarity) have been limited by lack of empirical investigation (Grant, 2003).

The most recent survey of nearly 800 executives conducted by McKinsey Quarterly (2007) provides strong evidence of the importance of strategic planning processes for improving overall satisfaction with strategic development. According to this study, 79% of managers who admitted that the formal planning process played a significant role in developing strategies of their firms were satisfied with the approach of their companies, compared with only 21% of managers who claimed that the process did not play a significant role. Moreover, 51% of the respondents of this study who reported that their firms had no formal planning process were dissatisfied with the existing approach to the development of strategy, compared to only 20% of those at firms with a formal process.

Despite the perceived importance of a formal strategic planning process, only 45% of the respondents of McKinsey Quarterly survey (2007) reported that they were satisfied with this process at their companies. Furthermore, just 23 % revealed that major decisions

were made within the boundaries of a formal planning process. The results of this survey are in line with an earlier argument made by Hamel (1996: 71) who remarked that “in the vast majority of companies, strategic planning is a calendar driven ritual, not an exploration of the potential for revolution. The strategy making process tends to be reductionist, based on simple rules and heuristics. It works from today forward, not from the future back, implicitly assuming, whatever the evidence to the contrary, that the future will be more or less like the present”. This argument is consistent with certain misperceptions which some executives have about strategic planning: “Most corporate ‘strategic plans’ have little to do with strategy. They are simply three year or five year rolling resource budgets and some sort of market share projection. Calling it ‘strategic planning’ creates false expectations that the exercise will somehow produce a coherent strategy” (Rumelt, 2007, cited in McKinsey Quarterly, 2007: 48). These points further support research which claims that strategic planning produces too much rigidity and inflexibility, particularly in an environment which is impossible to forecast (Fredrickson 1984, Minzberg 1990).

The new competitive landscape of the 21<sup>st</sup> century with its macroeconomic instability and high velocity of change in the business environment makes great demands on strategic planning and redefines its role within companies. Several scholars point out that an unpredictable environment makes agility a vital element of strategic planning (Dickson, 1992; Johnson et al., 2003). For instance, an experimental strategy involving improvisation can be an important source of agility (Eisenhardt & Tabrizi, 1995). Such improvisation can be valuable to firms, particularly when the environmental changes are faster than the firm’s planning cycle (Moorman & Miner, 1998, Slotegraaf & Dickson, 2004). In addition, improvisation is important when planning has not provided all details or tactics of implementation (Moorman & Miner, 1998; Quinn, 1986; Sutton, 1990). The role of improvisation in the context of uncertain environments is discussed later in this paper.

In the past (prior the 1990s), the strategic planning process was employed for strategy formulating with the most important tasks of planning growth and allocating resources. However, as Grant (2003) found, by the late 1990s strategy formulation was occurring mostly outside the firm’s planning systems. Moreover, strategic decisions were made in response to the external opportunities and threats and incorporated into strategic plans. According to Grant (2003: 512), by that time strategic planning systems of the major oil companies, for example, had “little in common with the highly bureaucratized, top-down processes caricatured by Henry Minzberg”. Rather, strategic planning systems were mechanisms for improving the quality of strategic decisions, for coordinating strategic decision making, and for driving performance improvement. These strategic planning systems can be described as processes of ‘planned emergence’ (Grant, 2003) which are aimed to assist firms to adapt to the challenges and opportunities of a fast changing environment. Specifically, firms with a strong emphasis on strategic planning are more likely to use rationally based budgeting approaches. These firms may recognize that rationally based budgets afford more resources for the planned actions (Piercy, 1987; Slotegraaf and Dickson, 2004). Such careful planning makes firms better prepared to respond to emergencies.

Undoubtedly, turbulent environmental changes call for more careful planning (e Cunha, 2004). Furthermore, crises demand planning of actions for prevention of, preparation to, response on and recovery from crises. (Hosie & Smith, 2006). An organisation without a plan of actions in case of emergency is putting at risk its very existence. “When the destructive process is especially fast, the chance to recover from failure may never be offered to an organisation” (e Cunha & da Cunha, 2006: 842). Planning becomes a more challenging and, at the same time, an imperative exercise. Making quick responses to the unknown and adjustment of existing plans to the external opportunities and threats requires a dominant frame of reference (Prahalad & Hamel, 1990). The use of a strategic plan as a point of reference can assist firms to avoid strategic drift. From the above, the following propositions are derived:

Fast changing environments and crises call for strategic planning which can assist firms to adapt to the challenges and opportunities of the environment.

Fast changing environments and crises call for strategic planning which is used as a fundamental reference of the course of the firms in the process of continuous adjustment of existing plans to the demand of the environment.

#### **The role of learning (emergent strategy)**

The traditional planning approach to strategy assumes that strategy planning happens first and strategy implementation follows later. However, increased volatility of the business environment requires a different approach to strategic planning (Grant, 2003). Furthermore, firms are involved in an evolving process of learning and discovery caused by ongoing entrepreneurs’ search for business opportunities in response to the realities of the market (Schumpeter, 1942, cited in Cunha & Cunha, 2006 – 842).

Indeed, in organisations facing turbulence, “nobody knows in advance what the knowledge is or needs to be” (Tsoukas, 1996: 22). Further, organisations can drop formal plans because in a rapidly changing environment they seldom have the capacity to comprehend plans (Minzberg, 1994). Rather, as Johanson and Johanson (2006: 183) put it, “expectations frame what one imagines to be achievable in the future, and thereby what is worth searching for”. These authors stress that discovery occurs in a process characterized by unpredictable and unexpected events.

Kirzner (1992) links discovery with a firm’s alertness; that is firms may be more or less able to make discoveries. Some years earlier, Barney (1986) found that discoveries can only be identified as luck, and Hayek (1980), on the other hand, views discovery as a consequence of accidents. Johanson and Johanson on the other hand stress that discovery does not always take place completely at random. They claim that discovery can be viewed as the intended outcome of improvisation, because firms improvising in turbulent conditions do not know in advance what they will discover. This leads to the next proposition:

Fast changing environments and crises make high demands on discovering the unknown and ongoing learning through improvisation.

The requirements to strategise in a competitive landscape with high speed environmental changes are extensively studied in the academic literature (e Cunha, 2004; Hitt et al., 1998; Minzberg, 1994; Powel, 1990; Stacy, 1991). These studies point out that turbulent environments do not remain in the same state long enough for organisations to be able to find a favourable competitive position and exploit it (Eisenhardt & Brown, 1998; Fines, 1998). This temporal component enables firms to become resilient to external changes. As Hamel and Valikangas (2003: 53) suggest, “in a turbulent age, the only dependable advantage is a superior capacity for reinventing your business model before circumstances force you to. Achieving resilience is not easy.” This position is aligned with the argument of Eisenhardt (1998) who considers that to survive in such fast paced environments, firms must embed flexibility in strategic actions. Strategic actions are those that affect or determine the fate of the firm as a whole (Quinn, 1978).

Strategic flexibility refers to the ability to adapt to environmental changes through continuous changes in current strategic actions, asset deployment, and investment strategies (Aaker & Mascarenhas, 1984; Hitt, et al., 1998; Nadkarni & Narayanan; 2007). Firms demonstrate strategic flexibility in strategic responses and rapid shifts from one strategy to another (Sanchez, 1995, cited in Nadkarni & Narayanan; 2007). Strategy scholars have outlined two main themes of strategic flexibility: resources deployment and competitive actions (Eisenhardt & Martin, 2000; Nadkarni & Narayanan; 2007). Undoubtedly, flexibility in resource deployment may explain why some firms move into new niches (Eisenhardt & Martin, 2000). In addition, competitive actions enable firms to develop and sustain their own competitive advantage as well as erode the advantages of competitors (Eisenhardt, 1998; Young et al, 1996).

Strategic flexibility also refers to the ability of organisations “to jump from one opportunity to the next, going with the flow of the market” (Cunha, 2004: 275). In such organisations, managerial responsibilities are focused on the collection and distribution of information (Minzberg, 1975), encouraging employees to take the necessary actions to appropriately respond to the environment (Greenleaf, 1977) and fostering employees’ creativity (Amabile, 1998). “Turbulent environments call for organisations to be able to detect and create new opportunities and then select those that are worthy of actual resource allocation in order to be exploited for the firm’s benefit. Companies that are able to integrate effectiveness and efficiency in such a way are often skilled in planning as actions unfold, in improvising.” (Cunha, 2004: 278). This argument leads to the third proposition:

Fast changing environments and crises lead to increased flexibility of firms in their resource allocation and competitive actions.

### **Improvisation**

Studies on improvisation have evidenced its positive outcomes in a variety of circumstances (Baker et al., 2003; Crossan, 1998; Eisenhardt, 1987; Moorman & Miner,

1998:). There are several definitions of improvisation in various fields of study. For example, improvisation is described as “thinking in the midst of action” in an educational context (Irby, 1992: 630), as “reading and reacting in parallel” from a sports psychology perspective (Bjurwill, 1993: 1383) and as “making decisions affecting the composition of music during its performance” (Solomon, 1986: 266). In organisational studies, improvisation is defined by Weick (1993: 6) as “no split between design and production” and by Verjaqns (2005: 505) as “the ability to perform something on the spur of the moment”. Hence, improvisation means that creation and execution occur at the same time. Moorman and Miner (1998: page?) emphasize the meaning of improvisation as “organizing in such a way that the actors both adaptively innovate and efficiently execute”. Moorman and Miner (1998) develop this argument even further by claiming that improvisation is a special case of intraorganisational innovation, which is defined as deviation from existing practices or knowledge (Rogers, 1983; Zaltman et al., 1973). All improvisation, by definition, involves some degree of innovation because improvisation involves the creation of action outside current plans and routines (Berliner, 1994).

Improvisation is based on the principle that organisations are learning from the environment. This learning “requires that individuals break out of their traditional frames of reference to see the environment in its full richness and complexity” and “break out of familiar patterns of seeing things” (Crossan, 1998: 595). It is imperative for members of organisations to be able to interpret their customer needs or competitive responses. As organisations develop this ability, they act before they have a complete plan and empower innovators to run experiments. These actions enable firms to adjust rapidly to user or customer reactions and connect current projects to ongoing business (Kanter, 2002). The point is that such organisations do not wait to act until they have a perfectly conceived plan; instead they create the plan by acting. In short, they improvise.

According to Kanter (2002), as an evolutionary approach to making strategy, improvisation has certain advantages. Improvisation cannot be hidden in the laboratory, rather it has to be performed before the audience of customers. “Other advantage is steaming from the incremental nature of the [improvisational] model. Improvisation’ can save the company money and reduce waste because investments are made projects by projects rather than all at once” (Kantor, 2002: 77). It also reduces the pressure from the top management to implement strategic change. Improvisation is less disruptive to the overall organisation because it provides everyone with the time to accustom to change. By the announcement of the major strategic change by the company’s management, the organisation has already implemented it. Kantor (2002) claims that companies that continuously improvise are better prepared to environmental uncertainties and implement radical changes.

Moreover, it is likely that change in organisations occurs before announcements made by the top management. Changes are lead by series of projects implemented by organisation’s entrepreneurs. When circumstances make it impossible to craft a scripted plan, improvisation enables companies to take options on the future. Through project by project improvisation, an organisation can constantly reinvent itself. An internal marketplace of ideas in which innovators initiate and sell projects replaces the usual

decision making hierarchy. As results from portfolio of projects evolves, the organisation's direction changes – slowly at first but significantly over time. From the above the forth proposition is therefore derived

Improvisation increases effectiveness and speed of firms' responses to the fast changing environment.

A company's evolution via improvisation should be sharply distinguished from opportunism. Furthermore, as Crossan and Sorrenti (1997) emphasize, improvisation is based on the rapid processing of experiences information, and it is important not to lose sight of the discipline, practice and experience on which intuition is based because it will lead to inability to build on and extend current theory and practice. This point is aligned with the argument of Eisenhardt (1997) that true improvisation is well structured and relying on two crucial rules. First, improvisation requires effective communication of performers and does not allow them neither to look back nor to glance ahead. The actors perform very much in the 'now'. Second, "improvisation involves performers relying on a few, very specific rules, but those that do exist are religiously followed" (Eisenhardt (1997: 2). The outcome of improvisation is that it produces an innovative, adaptive and well executed performance.

In fact, a planned set of strategies arises from a previously successful improvised set. If this is the case, improvisation rises to the level of strategy (Baker et al, 2003). Strategy theorists proved that some firms maintain stable patterns of problem driven and opportunity driven improvisation and use routines that enhance the chances their improvisational activity will produce effective outcomes in the short term (Baker et al., 2003; Quinn, 1978). Consequently, this leads to the next proposition:

In fast changing environments firms improvise strategically.

Interestingly, most studies while recognizing various degrees of improvisation (Baker et al., 2003; Moorman & Miner, 1998), agree on its "positive connotation" (Verjaqns, 2005: 505). As Verjaqns (2005: 505) explains further, "improvisation clearly has a rather positive connotation, and is related to harmony, and not only within the musician domain". Indeed, to respond to a certain situation posed by the environment, both managers and other staff members need to have expertise and creativity. On the contrary, the term 'bricolage' (meaning "do it yourself, making do with current resources" or 'tinkering'), which is often used interchangeably with the term improvisation has a less positive meaning. For example, Verjaqns (2005:505) highlights the difference between the two terms: "First, the word tinkering refers to ineffectiveness, inefficiency, or lack of expertise (amateur and desultory), as opposite to the high level of expertise and creativity that is usually related to the concept of improvisation. Second, tinkering is often related to adjusting or repairing damage or mistakes, whereas improvisation relates to creation or construction." The ability of firms to improvise should be fostered within a firm and viewed as the development of firm's dynamic capabilities.

In addition, Verjaqns contrasts the negative connotation of tinkering with the positive connotation of improvisation. The former, 'damage repair, too little, too late', in an organisational context refers to managers "having to solve problems that were caused by bad decisions made earlier" or "fairly clumsy attempts by well meaning, but not so experienced managers to steer their organisation away from problems, and repair damage along the way" (Verjaqns, 2005: 505). It is important that managers exercise both expertise and creativity to be able to display improvisation, rather than bricolage or tinkering, while dealing with environmental complexity. The above argument leads to the following proposition:

Effective responses to the fast changing environments call for experienced expertise and creativity.

### **Discussion on crisis management and strategy**

Crossan (1998) stresses that in a crisis situation where individuals and organisations are exposed to danger and when the resource 'time' is scarce, improvisation is paramount. As outlined earlier, the concept of improvisation is not new in the field of strategy. Minzberg (1973) argues that an extraordinary amount of managerial activity is spontaneous in nature. And as the cycle time for innovation is shortening, time based competition has become an important consideration for management (Stalk, 1988, cited in Crossan, 1998: 565). In addition, Stacy's work in chaos theory (1991) claims that beyond a certain point, increased knowledge of complex, dynamic systems does little to improve our ability to extend the horizon of predictability of those systems. We can know, but we cannot predict. Thus, having the capacity to respond in a spontaneous fashion is crucial (Crossan, 1998).

Minzberg's (1988) discussion of realised strategy as a blend between intended (planned) and emergent, illustrates the relationships between formally planned strategy and improvisation. Whereas intended strategy is more analytical, planned, controlled, future oriented, top down and episodic, emergent strategy is more intuitive, action oriented, spontaneous, in the moment, bottom up and ongoing. Improvisation builds on the business education cultivating skills to offer a perspective, tools and techniques to support the development of emergent strategies. There is strong evidence from the literature that firms may go beyond simple tactical improvisation in pursuit of pre existing goals and by doing so they generate new strategies (Baker et al., 2003; Minzberg & McHugh, 1985). At the same time, research proves that improvisational outcomes are focused on the very core of firm strategies (Baker et al., Minzberg & McHugh, 1985; Pascale, 1984). Hence, it can be concluded that improvisational efforts in case of an emergency will enhance the use of existing plans and programs of crisis management.

The turbulent environment of the last decade in particular has sharpened the long standing debate between the 'strategize' and 'improvise' approaches in strategy formation and implementation. In spite of the common perception that volatile, unpredictable, potentially disastrous business environments make strategic planning impossible, the evidence from the academic literature and corporate sector highlights that the role and nature of 'strategize' has changed drastically since the 1980s. "Research

suggests that complex problems are best addressed by decentralised, compartmentalised, semi-autonomous units, such as work groups responsible for strategic initiatives” (Baum, 1999; Kauffman, Mcready, & Dickenson, 1994; cited in Lovas & Ghoshal, 2000: 892). “To the extent the problems faced are not very complex, traditional and more bureaucratic approaches to organising may be more appropriate.” Thus, it can be argued that the complexity of the context in which strategy is formulated and implemented, determines the choice between the ‘strategize’ and ‘improvise’ approaches.

It is important to understand the tolerance for error in a particular context. In some environments, there is little tolerance to an error, for example, in a jetliner take off. However, even these types of contexts require the skills of improvisation in crisis. For example, the well documented case of Apollo 13 where astronauts and ground crew had to devise an innovative solution to filter carbon dioxide out of the space module. Their lives were dependent upon their ability to improvise (Lovell & Kruger, 1995). In a different context, Hutchins (1991) describes actions taken by the crew of a ship whose navigational systems had broken to make their way into a harbour. To avoid danger, the crew members called out estimates of coordinates, calculated subparts of the data needed to make navigational choices, and communicated partial information to one another repeatedly. Although transcripts of their interactions indicate that no one crew member understood the complete system they had improvised or exactly why they were succeeding, the crew developed a set of routines that worked to get the ship into the harbour. These examples demonstrate the importance of the ‘improvise’ approach to complement the highly planned and regulated strategy as the mean of survival.

In dealing with external uncertainty and crises, planning can assist firms to prepare for and prevent negative events whereas post planning improvisation can assist in making effective response and recovery. Moreover, “improvisation might be prompted when planning has not provided all the details or tactics of implementation” (Moorman & Miner, 1998: 3). Hence, planning and improvisation can be used as complementary rather than confronting. As it is suggested by Slotegraaf and Dickson (2004: 381), “in this approach, managers should be discouraged from remaining committed to the specified path simply because it was formally planned and encouraged to make real time changes to strategies that are based on changes in the firm’s external and internal environments yet remain within the firm’s strategic direction”.

### **Conclusion**

This paper contributes to the literature on planning and learning approaches to strategy by integrating a number of ideas and concepts that have been previously explored independently. At the same time, there are certain limitations, mostly due to the lack of empirical investigation and model testing. These limitations provide directions for future research in the following areas.

In the context of strategic planning as a mechanism of effective crises management, future research needs to assess existing strategic plans of firms, particularly those parts which address security and crisis management. Another interesting issue is to investigate

the process of strategic planning of security and crisis management programs by looking at the contribution by various groups of the firm and their coordination.

Future research on improvisation should aim to assess to what extent the firm's industry and product life cycles allow it to improvise and what improvisational competencies are developed. On the other hand, the limits of improvisation posed by a firm's external (e.g. industry clock speed) and internal characteristics should also be assessed. In addition, in case of a noticeable unpredictable environmental event, the experience of post event improvisation would be a valuable study to investigate to what extent the ability of a firm to improvise assisted in coping with the event. Furthermore, such a case would provide the opportunity to study what factors may influence the effectiveness of improvisation. Finally, how to avoid organisational drift in improvising would also make an interesting research question.

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