FROM AUTONOMOUS STRATEGIC BEHAVIOUR

TO EMERGENT STRATEGY:

An Exploratory Study

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ABSTRACT

This dissertation reports findings from an exploratory study of the formation of emergent strategy (Mintzberg 1978; Mintzberg & Waters 1985) in large and complex organizations. The study tracks autonomous strategic behaviour (Burgelman, 1983b), which is theorized and shown to be an important precursor to emergent strategy, using a single case study covering a period of ten years at a large telecommunications company. Building on Bower and Burgelman's model (Bower, 1970; Burgelman, 1983a, 1983b, 1983c), the dissertation develops a process model for emergent strategy which features four key components: project definition; mobilizing wider support to provide impetus; manipulating strategic context; and embedding within structural context. In addition, the study identifies four paths for emergent strategy formation by distinguishing between initiatives resulting from new ideas and initiatives resulting from the recycling of pre-existing ideas from prior projects; and between projects for which "promoting" is an early priority versus those for which "executing" is an early priority. The study also identifies mechanisms through which autonomous strategic behaviour becomes "ephemeral" and disappears rather than enduring to become realized as emergent strategy.

RÉSUMÉ

Cette étude exploratoire analyse la formation de la stratégie émergente (Mintzberg 1978; Mintzberg et Waters 1985) au sein des entreprises complexes de grande envergure. Notre étude fait un examen systématique des comportements stratégiques autonomes (Burgelman, 1983b), que l'on théorise comme précurseurs importants de la stratégie émergente. La recherche utilise une étude du cas d'une grande entreprise de télécommunication couvrant une période de dix ans. S'appuyant sur les travaux de Bower et Burgelman (Bower, 1970; Burgelman, 1983a, 1983b, 1983c), nous développons un modèle de processus qui comprend quatre composantes, soit : la définition du projet, la mobilisation de bases de support élargies pour donner de l'impulsion, la manipulation du contexte stratégique, ainsi que l'inclusion au sein du contexte structurel. De plus, l'étude identifie quatre chemins pour la formation de la stratégie émergente en différentiant d'une part les projets issus d'une nouvelle idée, plutôt que ceux faisant appel à une idée préexistante, et d'une part, les projets que l'on « soutient d'abord », de ceux que l'on « exécute d'abord », L'étude identifie aussi les mécanismes par lesquels les comportements stratégiques autonomes deviennent « éphémère» et disparaissent plutôt que de perdurer dans le temps et se réaliser en stratégie émergente.

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CHAPTER I: INTRODUCTION

1.1 RESEARCH OBJECTIVES

This study investigates the formation of emergent strategies (Mintzberg, 1978; 1987b; Mintzberg & Waters, 1985) in large and complex organizations. The study tracks autonomous strategic behaviour (Burgelman, 1983b) and demonstrates how it is an important precursor to emergent strategy. Prior research on this phenomenon has focused on uncovering cases of emergent strategy (Mintzberg, 1978; Mintzberg & McHugh, 1985; Boyett & Currie, 2004; Lowe & Jones, 2004); has demonstrated how an emergent strategy perspective may be better suited to examine the success of organizations (Pascale, 1984); and has shown how structural and environmental variables may help foster emergent strategy (Slevin & Covin, 1997; Osborn, 1998). While some scholars have related studies of emergent strategy to the Bower and Burgelman model (Mintzberg, Ahlstrand & Lampel, 1998; Mollona, 2002), the link between autonomous behaviour and emergent strategy has not been examined in detail or theorized. This exploratory study does so. It builds theory about emergent strategy formation dynamics by tracking instances of autonomous strategic behaviour (Burgelman, 1983a; 1983b) at a large multinational telecom company in a longitudinal study of its global support and service organization. Its findings can help organizations understand the dynamics at play and therefore better manage the emergent strategy process.

1.2 RESEARCH QUESTIONS

The focus of the research is therefore on strategy formation. More specifically, it is guided by three research questions:

1. ***How does emergent strategy form in large complex organizations?***
2. ***What is the role of autonomous strategic behaviour in this process?***
3. ***Why does autonomous strategic behaviour sometimes lead to emergent strategy while in other cases fails to produce realized strategy?***

In the following section we discuss the theoretical and practical importance of the research question.

1.3 THEORETICAL CONTRIBUTION

Emergent strategy is an important phenomenon which may help us understand the gap between what organizations "plan to do" and what organizations "actually do". While a rich literature addresses the phenomenon of interest indirectly, including many empirical studies that examine the related phenomena of organizational learning and the strategy process, few empirical articles explicitly identify emergent strategy as their research focus, perhaps due to a research bias towards separating strategy formulation from strategy implementation and emphasizing the former (Huff & Reger, 1987). The literature on emergent strategy can thus benefit from additional explicit research. Further, our research recognizes the importance of studying strategy formation in a holistic manner, consistent with calls for more integrative process research (Huff & Reger, 1987). Incomplete theorization of emergent strategy provides opportunities for making contributions by filling gaps in the literature (Locke & Golden-Biddle 1997). This study addresses four such gaps:

- ***Gap 1: Lack of systematic research explicitly theorizing emergent strategy***

Despite the importance of the phenomenon, very little has been done to explicitly study emergent strategy beyond Mintzberg's studies. This may be due to the relative difficulty in operationalizing the definition of strategy as a "pattern in a stream of actions" (Mintzberg & Waters, 1985: 257). We contribute to the field by building on extant theory – an approach which is integrative (Huff & Reger, 1987). Our study investigates fertile common ground between Porter's (1996) and Mintzberg's (1978; 1988) definitions for strategy and, as a consequence, we have tracked strategy as a portfolio of activities evolving over time. Using a systematic approach, our study uncovered five instances of emergent strategy which are used inductively as the basis for a process model of how emergent strategy forms from autonomous strategic behaviour. The model we construct from our exploratory study features four activities involved as projects representing autonomous strategic behaviour lead to the formation of a pattern of actions over time. These include triggering the definition of a project, mobilizing wider support for the project, manipulating the strategic context to link the projects with the organization's concept of strategy, and embedding the project into the organization's structure.

- ***Gap 2: Lack of a typology for emergent strategy based on formation dynamics***

The literature on emergent strategy has not systematically explored its formation dynamics in detail. Our literature review suggests at least three different triggers for its formation: individual (i.e. ideas of individual managers pursuing their own local vision for the organizational unit for which they are responsible), collective (i.e. ideas

generated collectively by members of an organizational unit) and external (i.e. ideas stemming from actors in local environments which are taken up and acted upon by members of an organizational unit). Our study confirms the existence of these triggers. Furthermore, our study identifies four distinct formation dynamics for emergent strategy by classifying cases along two dimensions. The first dimension addresses the novelty of the project idea, distinguishing between "new" projects, i.e. born from ideas which are novel to the organization, and "recycled" projects, i.e. born from ideas previously formulated by organizational actors. The second dimension addresses the approach to enacting the project idea, distinguishing between projects for which "promoting" is an early priority, i.e. for which organizational actors begin by promoting the project to gain wider support from organizational actors by explaining and defending its link to the concept of strategy before committing resources to it, and projects for which "executing" is an early priority, i.e. for which resources are allocated prior to engaging into significant efforts to promote and justify the project.

- ***Gap 3: Clarifying the link between Mintzberg and Waters' models (1985) and the Bower and Burgelman's model (Bower, 1970; Burgelman, 1983a, 1983b, 1983c)***

Our literature review highlights the similarities between the Mintzberg and Waters' (1985) model of emergent strategy and Bower and Burgelman's (Bower, 1970; Burgelman, 1983a; 1983b; 1983c) model of strategy-making as iterated resource allocation, and suggests possible relationships between induced and autonomous strategic behaviour, the introduction of new strategic categories to the

concept of strategy, and emergent strategy formation. Our study explores these and fills this gap by clarifying the conceptual linkages between the two models. It explains the role of autonomous strategic behaviour in fostering emergent strategy and describes how it may in some cases lead to ephemeral autonomous strategic behaviour.

- ***Gap 4: Absence of theory of "ephemeral" autonomous strategic behaviour***

  In Mintzberg's model, deliberate strategies may be realized or not while emergent strategy is always a ***realized*** pattern. Missing in the literature are in-depth discussions of instances of autonomous strategic behaviour which fail to become realized as emergent strategy, i.e. efforts which dissipate with no enduring impact. While strategy absence (i.e. the absence of patterns) has been theorized (Inkpen & Choudhury, 1995), autonomous strategic behaviour of short duration and without impact on the concept of strategy, which we term "ephemeral", has not. Our study uncovers instances of ephemeral autonomous strategic behaviour and, by identifying the reasons why these activities were abandoned, i.e. failure points, helps us to understand the formation dynamics of emergent strategy. Our study identifies three failure points in the process through which autonomous strategic behaviour becomes emergent strategy: failure to mobilize wider support for the project, failure to tie the project to the concept of strategy and failure to embed the project within the structure of the organization.

1.4 METHODOLOGICAL CONTRIBUTION

Despite the importance of the phenomenon of emergent strategy, methodological approaches remain inconsistent in attempts to operationalize the concept of emergent strategy. Some authors have operationalized it by investigating adhocracies, a form of organization characterized by relative autonomy of organizational actors and assumed to give rise to emergent strategy, by tracking patterns in product types over time (Mintzberg & McHugh, 1985). Others have investigated emergent strategy as a realized strategy deemed to be largely unintended by analyzing patterns in decisions leading to an unplanned strategy of a large organization to exit the market for a given product (Burgelman, 1994; 1996). Finally, others have made explicit efforts to operationalize the concept by tracking the divergence between stated objectives and realized strategies over time (Boyett & Curie, 2004). Our study makes a methodological contribution by integrating Bower and Burgelman's concept of autonomous strategic behaviour (Burgelman, 1983a; 1983b) together with Mintzberg's (1978, 1988) model for strategy formation; and by identifying realized patterns in action resulting from projects representing autonomous strategic behaviour which we tracked systematically forward in time from their origins.

CHAPTER II: LITERATURE REVIEW

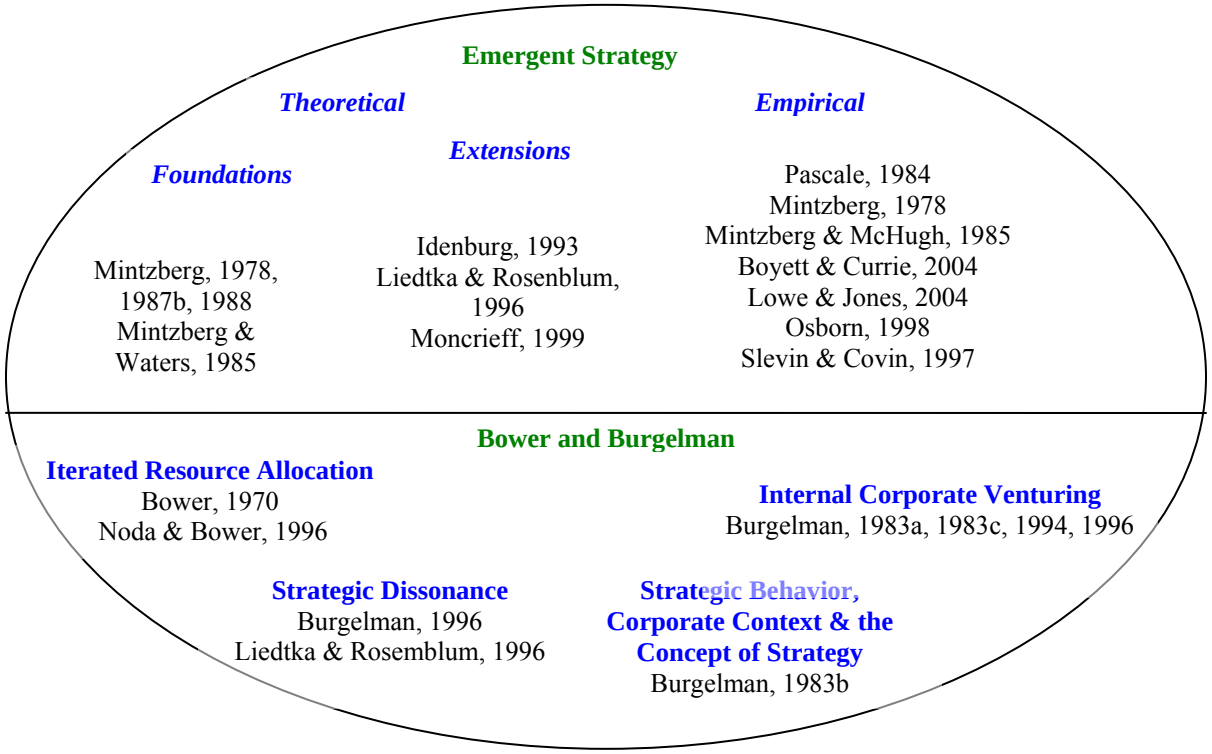
While the concept of emergent strategy was coined by Mintzberg in 1978 and has not received much direct attention from management scholars, a literature focusing on unintended strategies more broadly has developed. In challenging the traditional approach to strategy formulation (Mintzberg & Lampel, 1999), brought forth by the design school (Andrews, 1970) and the planning school (Ansoff, 1965) scholars have studied strategy as a learning process (Mintzberg et al., 1998; Wilson, Thomas & McGee, 2005). The prolific literature on organizational learning (Argyris & Schön, 1978; March, 1978; March, 2006) has enabled strategy scholars to propose an ensemble of alternatives to the traditional model which, arguably, indirectly address some aspects of emergent strategy. These include incremental approaches to strategy such as muddling through (Lindblom, 1959) and logical incrementalism (Quinn, 1980); bottom-up approaches which emphasize resource allocation processes (Bower, 1970) internal corporate venturing (Burgelman, 1983a; 1983c); strategic integration (Burgelman & Doz, 2001); and strategy as retrospective sensemaking (Weick, 1983) which can then guide sensegiving (Gioia & Chittipeddi, 1991). Other notable bodies of work have also contributed to our understanding of unintended strategies. These include the work on process and umbrella strategies (Mintzberg et al., 1998); the role of middle management (Westley, 1990; Langley, Mintzberg, Pitcher, Posada & Saint-Macary, 1995; Rouleau, 2005); strategic conversations (Liedtka & Rosemblum, 1996); garbage can models and bounded rationality (Cohen, March & Olsen, 1972, March, 1978; 2006); as well as, recently, applications of complexity science to organization studies (Maguire, McKelvey,

Mirabeau & Oztas, 2006); collaboration dynamics among rival organizations (Mariani, 2007); and the use of deliberately emergent strategies by venture capitalists (King, 2008).

From this wider literature on emergent strategy we focus on two streams. First we review Mintzberg's model of emergent strategy (Mintzberg, 1978; Mintzberg & Waters, 1985) and second we present the literature on resource allocation and internal corporate venturing (Bower, 1970; Burgelman, 1983a; 1983b; 1983c; 1984) which has given rise to what is called the Bower and Burgelman model, as it affords an opportunity to unpack conceptually and build upon Mintzberg's definition of emergent strategy. We conducted a search on ABI/inform for articles containing either "emergent strategy" or "emerging strategy" as part of the citation or the abstract, for the years 1970-2008 to generate a list of articles.

Figure 1 shows the result of the search. The first part of the review focuses on emergent strategy while the second part focuses on the Bower and Burgelman model.

Figure 1: Emergent Strategy Literature and Related Work



2.1 MINTZBERG'S MODEL FOR STRATEGY

In this section, we review the definitions informing Mintzberg's model for emergent strategy in "Theoretical Foundations" (Section 2.1.1) and discuss Mintzberg & Water's deliberate/emergent continuum typology. We present and critique current "Theoretical Extensions" (Section 2.1.2), and we review the set of empirical articles which directly identify emergent strategy as their phenomenon of interest in our "Empirical Contributions" review (Section 2.1.3). We discuss some of the limitations of

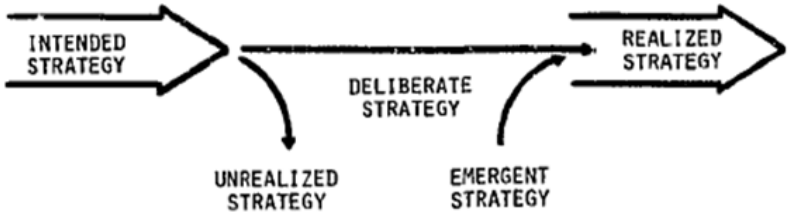
Mintzberg's definition of the phenomenon and we inductively identify a set of possible triggers for the formation of emergent strategy.

2.1.1 Theoretical Foundations: Mintzberg's Model for Strategy

Mintzberg's model distinguishes strategy originating from intentions and plans on the part of the organization's leaders from strategy forming in the absence of intentions (Mintzberg, 1978). While organizations may successfully craft strategies (Mintzberg, 1987b), the model below (Figure 2) outlines the possibility that some strategies may never come to fruition thus resulting in unrealized strategies. Realized strategies imply the presence of a pattern. This pattern may either be ***deliberate*** or ***emergent***. Deliberate strategies imply intentions which are translated into plans which are successfully implemented by the organization. In contrast, emergent strategy describes a pattern in a stream of an organization's actions which may not be attributed to its leadership's plans or intentions.

Figure 2: Mintzberg's Model for Strategy

(Source: Patterns in Strategy Formation, 1978)



Mintzberg and Waters (1985) further build a typology of eight strategies which fall along the deliberate and emergent continuum (Table 1). The more deliberate strategies include planned, entrepreneurial and ideological strategies. Planned strategies

require the organization's leadership to formulate precise intentions which are communicated and implemented with little or no modifications by the rest of the organization. In the case of entrepreneurial strategy the vision comes from a single person or a single group controlling all facets of the strategy process. Ideological strategy is built around shared values which translate into collective intentions.

Table 1: Strategies in the Deliberate-Emergent Continuum
(Source: Adapted from Mintzberg & Waters, 1985)

Strategy (Mintzberg & Waters typology)	Description	Point on Continuum
Planned	Strategies originate in formal plans: precise intentions exist, and are formulated and articulated by central leadership, backed up by formal controls to ensure surprise-free implementation, typically in benign, controllable or predictable environment; strategies are most deliberate.	deliberate
Entrepreneurial	Strategies originate in central vision: intentions exist as personal, unarticulated vision of single leader, so are adaptable to new opportunities; organization is typically under personal control of leader and located in protected niche in environment; strategies are relatively deliberate but can emerge.	deliberate
Ideological	Strategies originate in shared beliefs: intentions exist as collective vision of all actors, in inspirational form and are relatively immutable, controlled normatively through indoctrination and/or socialization; organization is often proactive vis-à-vis environment; strategies are rather deliberate	deliberate
Umbrella	Strategies originate in constraints: leadership in partial control of organizational actions defines strategic boundaries or targets within which other actors respond, typically in complex or unpredictable environment; strategies are partly deliberate and partly emergent, thus deliberately emergent	deliberately emergent
Process	Strategies originate in process: leadership controls process aspects of strategy (hiring, structure, etc.), leaving content details to other actors; strategies are partly deliberate and partly emergent thus, again, deliberately emergent	deliberately emergent
Unconnected	Strategies originate in enclaves: actor(s) loosely coupled to rest of organization produce(s) patterns in own actions in absence of, or in direct contradiction to, central or common intentions; strategies are organizationally emergent but perhaps deliberate for actor(s)	emergent

Consensus	Strategies originate in consensus: through mutual adjustment, actors converge on patterns in action that become pervasive in absence of central or common intentions; strategies are rather emergent	emergent
Imposed	Strategies originate in the environment: environment dictates patterns in actions either through direct imposition or through implicitly pre-empting or bounding organizational choice; strategies are most emergent, although may be internalized by organization and made deliberate	emergent

In the umbrella strategy, leaders define boundaries, broad objectives and guidelines while letting their organizations define the specific details of the strategy content. For process strategies, the leadership controls the process but leaves the details of content up to other actors in the organization who participate in the pre-defined process. A certain degree of autonomy therefore plays a critical role in the emergence of both umbrella and process strategies as the leaders share the task of strategy making with the rest of the organization. In such cases emergence is deliberately sought by the organization's leadership; these emergent strategies result from organizational design. Consensus strategies describe convergent patterns arising from a ***collectivity*** of actors with little or no prior intentions. Imposed strategies suggest the possibility for emergence prompted by factors ***external*** to the firm. Finally, unconnected strategies result from efforts of an ***individual*** person or group working outside the established vision and sometimes without explicit intentions.

The issue of intentions is a key one, because emergent strategy is defined ***"as a pattern realized despite, or in the absence of intentions"*** (Mintzberg & Waters, 1985: 257). Intentions in this context must be understood as global, i.e. organizational leaders', intentions. Indeed the matter of intentions is one of organizational levels. Individuals involved in shaping the pattern of actions which translate into an emergent strategy may

have very precise intentions. Individual action is often purposeful and intentions are everywhere we look. Consequently, we are faced with great difficulty when tracking and attributing organizational intentions (Mintzberg & McHugh, 1985). For instance, if we consider an organization as a whole then the unconnected strategy of a single individual is neither planned by the organization nor is it intended. However, at the level of the individual involved in shaping the unconnected strategy, there may be strong intent. This would make the strategy rather deliberate at a local level and emergent at a global level. Similarly, umbrella strategies contain elements of both emergent and deliberate strategy: while the strategy is not formulated by the leadership it is allowed to emerge from actors in subgroups of the organization. These actors may be driven by strong collective intentions making the strategy deliberate from their reference point. In addition to global and local intentions driving strategy as discussed above, umbrella and process strategies offer two additional modes of interplay between strategy formation and intent. Mintzberg and Waters (1985) describe these as deliberately emergent and suggest that this type of emergent strategy may be paired with a type of intent which makes them hybrid: emergent in terms of specific strategy content but deliberate in that the emergence of some specific strategy was not only intended but nurtured through processes and/or channeled through overarching, i.e. umbrella, constraints and considerations. One should therefore be careful not to equate emergent strategy with unintended strategy but rather the link between intent, emergence and organizational levels is a complex one requiring more investigation.

In summary from Mintzberg and Water's typology there appear to be at least three distinct triggers for emergent strategy at the local level: ***individual, collective and***

external. Also emergent strategy is in part linked to the level of analysis and coarseness of grain of detail which researchers examine as intentions may be absent from the global organizational level yet they may be identifiable at lower levels in the organization; or, in the case of deliberate emergence, intentions of different types may be present at different organizational levels. In the following section we present extensions to the emergent strategy model.

2.1.2 Emergent Strategy: Theoretical Extensions

Idenburg (1993) proposes a model for emergent strategy by mapping the strategy process along two dimensions of strategy development: goal orientation (***what***) and process orientation (***how***). Accordingly, the model produces four styles of strategy: Strong goal orientation coupled with weak process orientation leads to rational planning which is akin to the "planning" and "design" schools of thought about strategy formation (Mintzberg et al., 1998). Strong goal orientation coupled with strong process orientation leads to logical incrementalism (Quinn, 1980), a logical, purposive learning process of strategy making. Strong process orientation and weak goal orientation produces guided learning which resembles Mintzberg's process strategy where the leadership of the organization controls the process but leaves the content largely undefined. And finally weak process orientation and weak goal orientation produces emergent strategy. While incrementalism is sometimes intuitively associated with emergent strategy, Idenburg's model makes a clear distinction between the two along both dimensions of the typology. This is an important contribution as it clarifies the difference between logical incrementalism, an approach to strategy which is both directly managed and purposeful (although lacking a long term planning component), and emergent strategy, which is

neither directly managed by the organization's leaders, nor strongly steered by pre-defined goals.

Moncrieff (1999) acknowledges the existence of both deliberate and emergent strategy whilst adding a third type of strategy formation pattern, "Strategy in Action". Strategy in action may be understood as the multitude of individual actions taken in an organization by its members as they implement the firm's strategy. Moncrieff makes a distinction between strategy in action and emergent strategy. Emergent strategy is viewed as a conscious response to opportunities and threats while strategy in action is described as an aggregate of micro interactions. As such, emergent strategy is viewed as an adaptive response to the environment by higher level organizational actors while the concept of strategy in action, proposed by Moncrieff, is epistemologically closer to the concept of emergence in complexity science (Bunge, 2004; Maguire et al., 2006), as micro interactions from lower level actors combine in changing higher level strategic outcomes.

Moncrieff argues that given its collective and implicit nature, strategy in action unlike emergent strategy does not result in strategic learning. It remains however unclear why an organization could learn from adapting to emerging opportunities and not from recognizing and examining a pattern emerging from a collection of micro-interactions. If both produce strategic outcomes then both should offer an opportunity for strategic learning. In fact it seems that Moncrieff draws from complexity science's view of emergence in order to define strategy in action. Indeed, for complexity science - a field concerned with the study of complex systems - emergent patterns are seen to occur "at the macro-level, in contrast to the micro-level components and processes out of which

they arise" (Goldstein, 1999: 49). Moncrieff's definition of strategy in action, thus, suggests the emergence of patterned action. Distinguishing between emergent strategy and strategy in action appears problematic. While the formation dynamics between the two might be different in Moncrieff's model, it seems to be at the expense of parsimony. His model also seems to confuse organizational levels as strategic intent (global/leadership), emergent strategy (local) and strategy in action (micro interactions) all address different layers of the organization without explaining how one may integrate and navigate between such dissimilar levels of analysis.

Liedtka and Rosemblum (1996) investigate the emergence of strategic intent at distinct organizational levels. The authors extend Andrews' model (1970) by arguing that strategic learning is best achieved by managing the tension between providing too much or too little strategic coherence. While deliberate strategies provide coherence, emergent strategy is fostered by disruption, change and gaps between intent and action. They propose the need to foster strategic conversations, the interactions through which choices at all levels get made, and the rationales behind them developed. They identify two types of strategic conversations occurring both at the local and global (they use the term "institutional") levels. At the local levels conversations between individuals and actors in local environments (e.g. customers), help the organization gain knowledge about its environment and actors' preferences while global (i.e. "institutional") level conversations help reshape corporate intent. In this model emergent strategy results from the dynamics of organization-environment interactions at local levels and interactions between local and global levels inside the organization. An important contribution of this article is thus to point to the need to study emergent strategy by investigating interactions and patterns

at multiple levels of analysis.

From this set of articles we may draw two important conclusions. First the literature suggests ***several types of formation dynamics for emergent strategy*** (Idenburg, 1993; Moncrieff, 1999). Second, the formation of emergent strategy appears to be closely linked to the presence of ***gaps between intent and action*** (Moncrieff, 1999; Liedtka & Rosenblum, 1996). These conclusions are convergent with those made earlier: (1) what counts as "emergent" strategy is a function of the level of analysis and scale, i.e., coarseness of grain investigated; and (2) emergent strategy can be realized as a result of the interplay between local action and global intent.

2.1.3 Empirical Work on Emergent Strategy

In this section we review empirical accounts of emergent strategy and attempt to identify how they map to Mintzberg and Water's (1985) typology as well as what they tell us about the formation of emergent strategies. While our search on ABI/inform for articles containing either "emergent strategy" or "emerging strategy" as part of the citation or the abstract, for the years 1970-2008 yielded few empirical studies, these studies nevertheless support our claim of three potential triggers for emergent strategy, identified from our review of the theoretical literature: individual, collective and external.

Table 2 summarizes empirical studies of different types of emergent strategy including unconnected strategies (Mintzberg, 1978; Mintzberg & McHugh, 1985), imposed strategies (Pascale, 1984), consensus strategies (Mintzberg, 1978; Boyett & Currie, 2004); of combinations of various emergent strategies (Lowe & Jones, 2004); and of the role of organizational structure (Osborn, 1998), along with that of the environment, in emergent strategy (Slevin & Covin, 1997).

Table 2: Empirical Evidence of Emergent Strategy

Phenomenon or Relationships Investigated	Cite	Findings
Strategy formation	Mintzberg & McHugh, 1985	National Film Board: strategies emerge from ad-hoc events. Unconnected strategies pervade organization via consensus building and lead to period of stability. Individual and collective triggers present.
Strategy formation	Pascale, 1984	Honda: strategies emerge from market opportunity and despite the organization's vision about what it should pursue. External trigger present.
Strategy formation	Lowe & Jones, 2004	New Zealand Fisheries: strategies emerge from confronting divergent organizational views among peers. Collective trigger present.
Strategy formation	Mintzberg, 1978	Vietnam War Escalation: strategies emerge from consensus among generals and despite the President's lack of commitment to war effort. Collective trigger present.
Strategy formation	Boyett & Currie, 2004	Irish Telecom start-up in Jamaica: strategies emerge as middle managers pursue local opportunities despite contrary vision from head office. Collective trigger present.
Strategy vs. structure	Osborn, 1998	Frito-Lay: strategies more likely to emerge given semi-formal systems and interactive controls.
Strategy, structure, and environment	Slevin & Covin, 1997	112 firms: emergent strategy more likely given organic structure and opportunity laden environments.

Mintzberg and McHugh (1985) study the content of films produced at the National Film Board (NFB) between 1939 and 1975. They recount the tale of an adhocracy for which diversity and experimentation played an important role in shaping its history. The findings suggest emergent strategies originated from ad hoc events and unconnected strategies. Indeed, a strategy of feature-films was pursued as the result of a film going unexpectedly long. Another strategy emerged from Norman McLaren's experimental film work which he pursued single handedly until the 1960s prior to it pervading the organization. The filmmaker's early success validated his efforts in pursuing his own vision and prompted him to continue producing the experimental films.

Eventually the emergent strategy became the organization's main focus as other filmmakers followed suit in developing the experimental niche market as a result of consensus building among the various filmmakers.

Pascale (1984) describes yet another type of emergent strategy which was mainly prompted by the environment's demand and despite the organizational actors' conflicting vision. In this account, the environment bounded the actor's choices and as such Pascale's case study may be viewed as an instance of imposed strategy. His account challenges the Boston Consulting Group's rational strategy formulation story about the rise of Honda in America's small motorcycle market. Pascale's describes Honda's experience as one of miscalculation, serendipity and organizational learning. Indeed, the executives in charge of penetrating the American market of their own admission had no pre-conceived strategy. Furthermore they believed that America would pursue Honda's large motorcycles as it took more than eight months before they tried to move the small 50cc which were so successful in Japan but did not match their vision of the American market. Eventually and to Honda's surprise, it was the sporting goods shops which showed an interest in the small bikes. The strategy emerged from trial and error and was imposed from the market's constraints.

Lowe and Jones (2004) study the development of key performance indicators (KPIs) at a medium sized fisheries organization in New-Zealand. They show that the formulation of KPIs emerged from a messy process as a result of a lack of common knowledge among functional managers in the organization in which divergent opinions were eventually bridged by developing a shared understanding as a result of the protagonists interacting in meetings. Emergent understanding ensued from confrontation

of assumptions and beliefs among organizational actors. This type of emergence suggests the presence of collective emergent strategy making, built on consensus building and political processes (Pettigrew, 1977).

In the same vein Mintzberg (1978) illustrates the consensus strategy which formed around bureaucratic momentum and led to America's escalation in the Vietnam War. Despite Lyndon Johnson's lack of clear commitment to the War effort in the early 1960s, the United States strategy of escalation emerged from strategic actions taken by a collection of army generals and U.S. policy makers. While the environment and several influential actors played a role in shaping the strategy of escalation, its formation dynamics may also be described by that of a consensus strategy.

Boyett and Currie (2004) document the role of middle managers at an Irish start-up in Jamaican telecom in defining strategic context (Bower, 1970; Burgelman, 1983a; 1983b; 1983c; 1991; 1994; 1996; Noda & Bower, 1996) which lead to significant departure from the planned strategy of the Irish firm's headquarters. The successful emergent strategy was orchestrated in part due to the superior operational understanding of the Jamaican environment by the middle managers and in part due to the autonomy granted by the head office to the local team. Boyett and Currie's account suggest both individual vision and environmental context played important roles in shaping the emergent strategy while middle managers provided the context for closing the gap between the head office's vision and the local environment's realities.

Osborn (1998) studies the relationship between emergent strategy and controls at Frito-Lay. His findings suggest that emergent strategies are linked to the use of interactive controls (Simon, 1988) which are based on more personal knowledge about

process issues rather than on diagnostic controls which are based on measuring planned outcomes.

Slevin and Covin (1997) study the role of organizational structure in emergent strategy and relate them to environmental context. In a study of 112 firms in 78 industries they show high sales growth to be positively correlated to planned strategies in mechanistic firms which are operating in hostile environments. Conversely they find a positive correlation between emergent strategies and organic firms operating in benign environments. While planned strategies are typically associated with mechanistic organizations (Mintzberg & McHugh, 1985), the findings correlating planned strategies with hostile environments partially contradicts the claim that planned strategies are found in firms operating in predictable environments (Mintzberg & Waters, 1985). The contradiction may be lessened however by establishing a clear distinction between hostile environment and dynamic environments. Slevin and Covin's (1997) hostile environments feature high competitive pressures and low margins which is different than Mintzberg's unpredictable environments. Merging Slevin and Covin's (1997) findings with Mintzberg's insights we may look to highly unpredictable and opportunity laden environments as favorable contexts for the formation of emergent strategy and hence for studying this phenomenon. Finally, it is notable that Slevin and Covin (1997) depart from other scholars who focus on emergent strategy in terms of methodology: they base their study around a large sample of organizations and look for statistical correlations while most of the research to date has elected to build narratives around a few select case studies.

In summary the review of empirical accounts of emergent strategy confirms the

presence of at least three triggering mechanisms: individual, collective and external. Individual vision and drive played a key role at the National Film Board; external events and actors shaped Honda's success in America; while consensus dynamics shaped the formation of strategy at New Zealand Fisheries and the escalation of the Viet-Nam war.

However, we may also infer from these accounts the presence of actors engaging in what Burgelman (1983a; 1983b) terms "autonomous strategic behaviour", i.e. pursuing local objectives and engaging in strategic activities, which in some cases, may present notable divergence from global objectives pursued by the organization as a whole. For example, in the National Film Board case (Mintzberg & McHugh, 1985), Norman's McLaren's choice to produce experimental films, illustrates how an individual filmmaker's personal objectives and goals shaped his organization's strategy. Similarly, in the case of an Irish start-up in the Jamaican Telecom (Boyett & Currie, 2004), the efforts deployed by the middle managers to build capabilities in Jamaica led to a long term presence for the Irish company in Jamaica, departing significantly from the original objective of the parent company, which was to invest and divest shortly thereafter. This suggests that the study of autonomous behaviour might lead us to better understand the formation of emergent strategy.

We now proceed with presenting Bower's work on the resource allocation process and the Bower and Burgelman model which extends Bower's work. We discuss the Internal Corporate Venturing process described by Burgelman and explore the link between Mintzberg's emergent and deliberate strategies and Burgelman's autonomous and induced behaviour. We argue that tracking Burgelman's "strategic categories" – their appearance, modification or disappearance in organizations – provides a means to

operationalize and distinguish between deliberate and emergent strategy.

2.2 BOWER AND BURGELMAN MODEL

In the second part of the literature review we present "resource allocation" models of strategy formation (Section 2.2.1) which we show exhibit strong similarities with Mintzberg's emergent strategy model. We discuss Burgelman's key constructs of "autonomous" and "induced" strategic behaviour (Section 2.2.2). We compare and contrast Bower and Burgelman Model's with Mintzberg's; while the models are not isomorphic, a synthesis of the concepts can help us to theorize in more detail the phenomenon in which we are interested. We conclude this section with a discussion on Burgelman's concept of "strategic dissonance" (Section 2.2.3).

2.2.1 Resource Allocation Process and Internal Corporate Venturing

Bower (1970) argues that the traditional capital budgeting model, in which the decision rule of maximizing discounted cash flows is used to choose among competing projects, is inadequate to understand how organizations manage the resource allocation process. Instead he proposes a layered process model which features top-down decision goals and premises initiated by corporate management as well as bottom-up idea generation from operational levels of the firm. The model recognizes the importance of middle management in arbitrating the tension between new ideas and corporate strategic intent. Comparing Bell South and U.S. West, two telecom firms, Noda and Bower (1996) illustrate how two organizations given similar market positions, competencies, routines and structures followed two different evolutionary paths and created two different futures. Their study shows how different internal selection pressures on strategic

initiatives "emerging primarily from managerial activities of front-line and middle managers" (Noda & Bower, 1996: 160) led to choosing different paths amidst the population of potential alternatives.

Barnett and Burgelman (1996) and Burgelman (1991) argue for an evolutionary perspective on strategy. Variation based on serendipitous events and contextual variables leads to path dependence and suggests prescriptive models for strategy making devoid of contextual realities may be limited in their utility and relevance. Furthermore, strategic search may be maladaptive (Hannan & Freeman, 1977) and selection pressures may determine the success and failure of organizations insomuch as internal selection processes need to be matched with the environment's external selection pressures in ways that increase the likelihood of survival (Burgelman, 1994; 1996; McKelvey, 1999). This is especially relevant to our research because it suggests that, to study strategy as a pattern in action, we may need to take an evolutionary perspective to identify patterns as they unfold over time. Indeed, if emergent strategy implies strategic novelty without new organizational level intentions, then the study of emergent strategy requires a framework that can explain variation outside of leadership's strategic intent. Bower builds his model on three processes: project definition, the economic-technical process of formulating new ideas for projects; impetus, the political phase which consist of giving legitimacy to newly defined projects and; structural context built by the firm's leadership, the set of rules, rewards and procedures which condition organizational behaviour of all firm actors. Bower's model of resource allocation sheds light on emergent strategy. His model describes a process during which an idea is, first, formulated at the lower levels of the organization; second, selected into the organization as the project acquires the resources

necessary for its implementation; and, third, embedded in the procedures and rules of the organization as the project gains acceptance and resources, via a modified organizational structure. An organization's strategy therefore is not necessarily determined by an organization's existing structural context but, rather, can itself shape structural context as strategic projects arise from the organization's lower hierarchical levels. The model does not explain the formation dynamics in each phase in terms of realized pattern in action and therefore fails to fully integrate with Mintzberg's concept of emergent strategy. While Bower and Gilbert (2005) partially fill that gap by explicitly stating that the result of the resource allocation process is that of a realized strategy, the model still does not fully engage with potential points of abandonment of strategic projects, i.e. autonomous strategic behaviour, in this process.

Burgelman (1996) in a longitudinal study at Intel Corporation uses the resource allocation process to explain Intel's strategic realignment from a memory chip company to a micro-processor company and extends the Bower model by adding strategic context determination, a fourth process shaping the internal selection process for projects born from autonomous strategic behaviour. Strategic context "reflects the efforts of middle management to link autonomous strategic behaviour at the product/market level into the corporation's concept of strategy" (Burgelman, 1983b: 66) (Figure 3). Middle managers engaged in autonomous strategic behaviour attempt to make sense of initiatives born from autonomous behaviour and "engage in political activities to convince top management to rationalize, retroactively, these successful initiatives by amending the concept of strategy" (Burgelman 1983b: 66).

Burgelman's Internal Corporate Venturing (1983a; 1983c; 1994; 1996) provides a

model for understanding how the development of unplanned products may lead to important strategy changes despite initial efforts of an organization's senior management to stay the course. "Internal corporate venturing" (ICV) describes a strategy process built upon a set of interlocking activities in a diversified major firm by which new ventures emerge, and Burgelman (1996) uses the ICV model to describe Intel's exit from DRAM business.

Figure 3: Bower and Burgelman Model for Internal Corporate Venturing

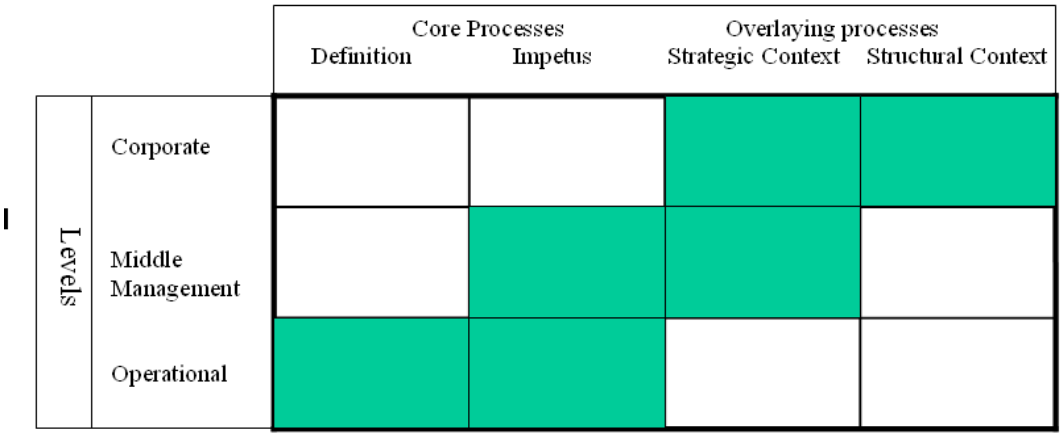


Figure 3 shows the four processes (i.e. definition, impetus, strategic context and structural context) along with the primary organizational levels involved (i.e. corporate, middle management and operational, using shaded boxes. Thus while activities in the definition phase, i.e. project definition, are mostly undertaken by managers at the operational levels, activities in the impetus phase, i.e. promoting and finding political support for the project, are accomplished by both operational and middle management levels. Strategic context refers to efforts of middle managers to link projects born from autonomous strategic behaviour with the concept of strategy. Therefore it concerns, for the most part, middle management and to a lesser degree corporate levels. Structural context meanwhile results from a corporate level process.

Using this model Burgelman describes the exit from DRAM at Intel. The problem Intel faced was one of core rigidities (Leonard-Barton, 1992) as Intel's technical competence in making DRAM memory chips made the shift to a new strategy difficult to contemplate by the top layer of management. Burgelman describes how lower level managers identified microprocessors as strategic given the market's demand and how middle managers began to allocate resources toward the new venture despite the leadership's commitment to the existing DRAM business. The misalignment between the firm's strategic intent formulated by top-level management and strategic action deployed by low and middle level management, suggests that Burgelman's account of Intel's DRAM exit is a case of an emergent strategy. Indeed, his narrative shows that the realized strategy of producing microprocessors deviated from Intel's intended strategy of competing in the DRAM business. "There was no clear corporate level exit decision until the exit from DRAMs was virtually a *fait accompli*" (Burgelman, 1996: 199).

Key activities in the ICV process at Intel included unlinking and repositioning existing products to new customers; shifting resource and uncoupling technology between established products and future products; the strategic recognition of new basis for competition by senior management; and the structuring of context to reflect new strategic positioning. While mainstream customers consisted of those purchasing three-power-supply DRAM, the company developed a niche product with single-power-supply. Altering one of its key technology features away from the mainstream customer base contributed to the exit from DRAM. In addition, although the corporate strategy was to continue to compete in the DRAM business, mid-level managers began to shift resources away from the production of DRAM in favor of a new type of memory product,

EPROMs, and microprocessors because these new logic based products yielded higher margins than DRAMs (Burgelman, 2006). Facilitating this, Intel's EPROM and microprocessors were unplanned products which had technology features that allowed production managers to easily switch from DRAM to the newer high yield products. The managers gradually changed the production mix with low switching costs. Finally, while the investments in DRAM decreased over several years, in 1984, Intel's senior management completed the change of the strategic context for DRAM business by denying an investment into the final fabrication facility for DRAM which could have allowed Intel to continue to compete in this business (Burgelman, 1996).

The gap between the market's reality and the firm's distinct competencies (Hamel & Prahalad, 1990) is yet another type of misalignment which played an important role in creating a push towards a new direction for Intel. Indeed the misalignment fostered the emergence of new opportunities as organizational members sought strategic coherence by closing the gap between its competencies and the market's reality. Accordingly, Burgelman and Välikangas (2005) argue that ICV cycles must be managed. Their study shows that ICV may be influenced by the amount of uncommitted resources and by the perceived strength of the opportunities for the core business. High availability of uncommitted resources and low prospects for current business lines tends to favor all-out ICV programs as firms seek new opportunities from venture programs.

Bower & Gilbert (2005) revisit the resource allocation model and make important additions to it. While the core of the model remains unchanged as a multilevel dynamic process model featuring definition and selection (formerly impetus); the authors make four key revisions. First, they identify the forces that shape the processes of definition

and selection. The process of definition can be initiated at any of the three organizational levels of the model (corporate, middle, operating). Therefore the model encompasses on the one hand, deliberate strategy making, from corporate plans to implementation by operational levels, and on the other hand, the emergent counterpart, from operational identification of a gap to corporate alignment. "Like the process of definition, selection is also a multilevel process and its activities can develop at each level of the firm" (Bower & Gilbert, 2005: 447). This may be a function of the relative difficulty in engaging resources. While some projects might require only local approvals to deploy resources, others, like outsourcing of a core function, might require high level involvement to launch the implementation phase. Second, they include external forces to supplement Bower and Burgelman's structural and strategic context. These external forces are the capital market context and the product market context, either of which may impede or offer opportunities for resource allocation. Third, they postulate the outcome of the resource allocation process to be realized strategy. This strengthens the link between their model and Mintzberg's model (Mintzberg, 1978; Mintzberg & Waters, 1985) for strategy formation and suggests that further research, like this study, could build on this link between the two models. Fourth, the authors identify a feedback loop from realized strategy back into the forces shaping the strategy formation processes: resource allocation shapes realized strategy which shapes resource allocation which shapes realized strategy and so on. Our study builds on this link, illustrating how the recognition and sanctioning of emergent strategy transforms it to deliberate strategy which, in turn, provides the basis for future decisions concerning the organization's resource allocation.

2.2.2 Autonomous vs. Induced Strategic Behaviour

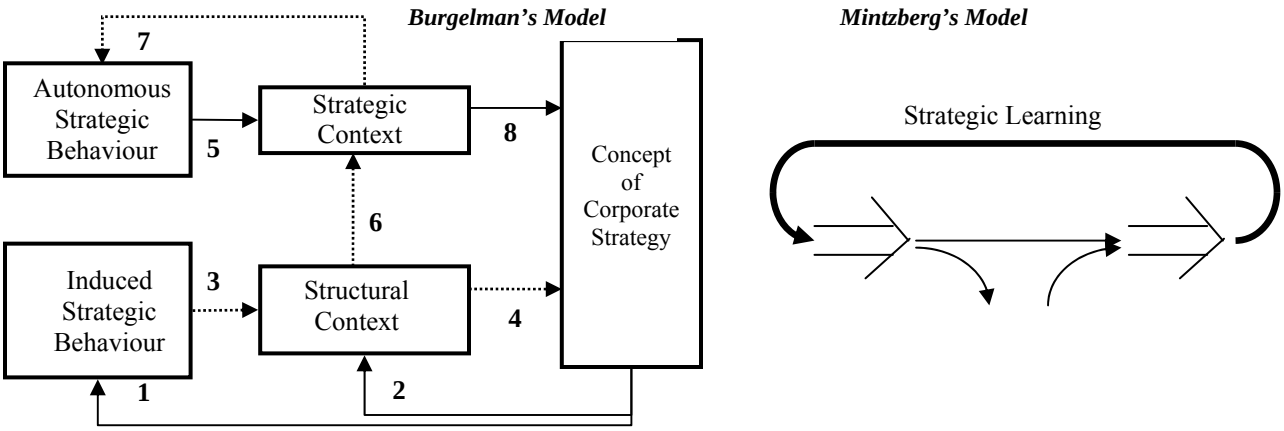
In this section we introduce two key concepts from Burgelman's extension (1983a; 1983b) of the Bower and Burgelman model. Autonomous strategic behaviour is defined as the behaviour of organizational actors pursuing local objectives and engaging in strategic activities which are not aligned with the concept of strategy. Conversely, induced strategic behaviour is defined as the behaviour of organizational actors engaging in strategic activities directly aligned with the concept of strategy.

The concept of strategy of an organization is the overall set of established categories for defining opportunities (Burgelman, 1983b) and is akin to the vision developed by its leaders (Andrews, 1970) along with the competitive position (Porter, 1980) sought by top level management. Structural context represents the administrative mechanism manipulated by corporate management to influence and change the perceived interest of strategic actors in the organization. Induced strategic behaviour uses categories provided by the current concept of strategy to identify opportunities while autonomous strategic behaviour represents efforts to pursue opportunities which are (at least initially) at odds with existing categories. Finally strategic context reflects the efforts of middle management in linking autonomous strategic behaviour at the product/market level to the concept of strategy. Burgelman's strategic context manipulation provides avenues for explaining the transition between lower level strategic behaviour and the emergence of a realized pattern. It provides a methodological opportunity to study emergent strategy formation by tracking autonomous behaviour and by looking for organizational actor's narrative efforts in linking autonomous initiatives by "convincing top management to rationalize, retroactively, these successful initiatives by amending the concept of

strategy" (Burgelman 1983b: 66).

Burgelman's autonomous and induced strategic activities exhibit strong similarities with Mintzberg's emergent and deliberate strategy (Figure 4).

Figure 4: Burgelman's Model for Strategic Behaviour vs. Mintzberg's Model for Strategic Learning



Indeed, while Mintzberg described emergent strategy as realized in the absence or despite (global) intentions, Burgelman proposes that intentions can sometimes be traced to autonomous strategic behaviour. Burgelman's 5-7-5 loop where autonomous behaviour modifies strategic context iteratively, when coupled with the 5-8 path, where autonomous behaviour is selected in and changes the concept of strategy, represents an alternative articulation of Mintzberg's argument that emergent strategy can modify future intentions once the emergent pattern is realized. Similarly, Burgelman's 1-3-4 path represents an alternative articulation of Mintzberg's deliberate strategies. Furthermore, Burgelman's model highlights mechanisms for deliberate and emergent strategies. First, structural context acts as a selection mechanism on induced strategic behaviour leading to deliberate strategies and may also explain why some intended strategies go unrealized. In

the case of US West, structural context played a determinant role in its failure to exploit cellular initiatives. US West had intended to pursue the cellular business however the strategy went unrealized as a consequence of its highly decentralized structure, and its emphasis on bottom-line profitability (Noda & Bower, 1996). Indeed, while the company had identified potential cellular opportunities, these were not deemed as profitable in the near term. The structural context steered the company away from the cellular business and towards unrelated diversification, which was deemed more profitable.

Second, strategic context, a mechanism for furthering autonomous behaviour, is manipulated by organizational actors attempting to bridge the gap between the concept of strategy and their local initiatives. The role of strategic context is illustrated by revisiting Burgelman's account of Intel where it facilitated the exit of DRAM business (Burgelman, 1996). As product managers began to define logic based products such as EPROM memory products and microprocessors as a strategic segment for Intel, middle managers began to shift critical resources to allow this strategic exploration to continue. Furthermore, middle managers championed the new initiative which helped change the set of mental models held by organizational actors in favor of the new strategy of pursuing the development of Intel's EPROM and microprocessors.

Burgelman's processes constitute an important addition to Mintzberg's model which addresses the question of how emergent strategy is formed, but does not fully answer it. The concept of structural context helps to explain why some deliberate strategies are selected in while other intended strategies go unrealized; while the concept of strategic context helps to shed light on why some projects born out of autonomous strategic behaviour create a pattern in time and lead to emergent strategy while other new

ideas and projects never become emergent strategies. Table 3 summarizes the parallels between Mintzberg's phenomena and Burgelman's processes.

Table 3: Mintzberg and Burgelman parallels

Mintzberg Phenomena	Burgelman Processes
Deliberate strategy	Induced strategic behaviour selected in by structural context and resulting in a pattern over time
Emergent strategy	Autonomous strategic behaviour resulting in a pattern over time as a result of manipulating strategic context
Unrealized strategy	Induced strategic behaviour not selected in by structural context so leading to no pattern over time
Realized strategy	Induced and autonomous strategic behaviour resulting in a pattern over time
Strategic learning	This occurs when the concept of strategy is modified, providing new categories which induce subsequent strategic behaviour. This provides the basis for the transition from emergent to deliberate strategy.

In summary, Burgelman's extension of the Bower and Burgelman model helps to illuminate the formation of emergent strategy by pointing to mechanisms for induced and autonomous behaviour. Since patterns in action may be difficult to observe as they form, this study introduces and employs an alternative novel method: to study strategy formation, researchers can track behaviour which is aligned with existing strategic categories and results in a pattern over time (i.e. induced behaviour which results in deliberate strategy) or which is not aligned with existing strategic categories initially but which leads, later, to new or changed strategic categories as well as a pattern over time (i.e. autonomous behaviour which results in emergent strategy).

While Burgelman's work sheds light on how autonomous behaviour may lead to the formation of emergent strategy, more research is needed to investigate how and why autonomous strategic behaviour is prevented from developing into emergent strategy. In

addition, Burgelman's extension of the Bower and Burgelman model also provides the base to discuss the transition from emergence to deliberateness. Our study seeks to explore and clarify these links between Bower-Burgelman and Mintzberg.

2.2.3 Strategic Dissonance

In this section we discuss strategic dissonance and its potential links to emergent strategy.

Strategic dissonance (Burgelman & Grove, 1996) is the gap between the firm's strategic intent formulated by top-level management and strategic action deployed by low and middle level management. This definition from the literature, in itself, is suggestive of emergent strategy; we thus expect that strategic dissonance may be present in the case of emergent strategies. Strategic dissonance may also be related to the triggers identified above in our review of Mintzberg and Water's (1985). First, autonomous strategic behaviour triggered by an individual's local vision, features dissonance between the local vision and the organization's concept of strategy. Second, autonomous strategic behaviour triggered by collective dynamics (i.e. ideas generated collectively by members of an organizational unit), features dissonance between the shared perspective of unit members and the organization's concept of strategy. Thirdly, autonomous strategic behaviour triggered by external dynamics (i.e. ideas generated from interactions with external stakeholders such as customers and suppliers), features dissonance between the external stakeholder's vision for products or services delivered by the organization and the organization's vision as articulated in its concept of strategy.

For example, strategic dissonance appears to be present when the individual trigger for emergent strategy is present; unconnected strategies often originate at the local

level from an individual's vision. Mintzberg and McHugh's (1985) account of the National Film Board (NFB), for instance, describes the pursuit of documentary making by one individual, which was initially largely dissonant with NFB's concept of strategy but later led to a period of stability during which the NFB pursued a deliberate strategy of producing such films. The concept of dissonance is similar to the notions of gap (Liedtka & Rosenblum, 1996) and divergence (Burgelman & Grove, 1996) for which the literature suggests that the level of relatedness between the local actor's vision and the organization's concept of strategy plays a role in determining if and when strategic dissonance may be bridged; at times, the gap, i.e. degree of dissonance, may prove to be too large to close by organizational actors. Consider for instance NFB's mission: one may hypothesize that while the production of documentaries were not directly aligned with the mission, it provided a gap large enough to make the strategy emergent but still remained somewhat related to the business of movie making. One expects that opening an art gallery would have been more difficult and had less of a chance of succeeding, and entering the business of car making, even less of chance for our NFB filmmaker.

We may also relate dissonance and the collective trigger for emergent strategy as dissonance likely plays a role in the case of collective dynamics which lead to consensus strategies. Indeed, consensus strategies feature collective loci of intentions at the local level which result from confronting diverging views and mutual adjustment between organizational actors. In the case of the development of key performance indicators (KPIs) at a medium sized fisheries organization in New-Zealand (Lowe & Jones, 2004), diverging views led to the formulation of KPIs from a messy process as managers lacking common knowledge eventually developed a shared understanding. Emergent

understanding ensued from confrontation of assumptions and beliefs among organizational actors. Thus, collective dynamics lead organizations towards unexpected consensus, which in turn is likely to feature dissonance with the firm's strategic intent, formulated by top-level management.

Finally, we may also relate dissonance and the external trigger for emergent strategy. Bunge (2004) argues that for emergence to occur the most important contextual variable is the presence of energy differentials. This idea has also been articulated in organizational terms by McKelvey (2004) who proposes "adaptive tension" as what causes order to emerge in an organization, viewed as a complex system in which autonomous, heterogeneous actors "energized" by contextually imposed tensions interact with each other. Strategic dissonance and adaptive tension thus seem closely related: adaptive tension may be a precursor to autonomous behaviour which, in responding to local requirements, is dissonant with the overall concept of strategy. Honda's foray into the American motorcycle industry is an example of externally triggered emergent strategy featuring tension between local markets and local management. Indeed, while the local executives had started with an initial formulated strategy which targeted large motorcycle sales through established motorcycle dealers, a local sport shop's vision and insight drove Honda to a novel strategic position via an emergent strategy emphasizing smaller motorcycles.

In summary strategic dissonance appears to play an important role in emergent strategy regardless of the triggering mechanism involved. Yet, more research is needed to explore how strategic dissonance, once present in the organization, may evolve as organizational actors attempt to bridge the gaps created by autonomous strategic

behaviour between local initiatives and the concept of strategy. Our study seeks to fill this gap by tracking appearance, maintenance and disappearance of dissonance between the concept of strategy and projects born out of autonomous strategic behaviour.

2.3 FROM AUTONOMOUS STRATEGIC BEHAVIOUR TO EMERGENT STRATEGY

Our review has shown that, while a rich and important literature has developed around emergent strategy, too few studies explicitly explore the phenomenon. In addition, empirical accounts point to distinct triggering dynamics for emergent strategy, suggesting different ways it may be formed. However, there is little systematic research into the formation dynamics of emergent strategy. Further, theoretical linkages between Bower and Burgelman's autonomous strategic behaviour and Mintzberg's emergent strategy model appear to exist but remain unexplored; as do instances of autonomous strategic behaviour which are not realized as emergent strategy. For these reasons, our research addresses the following three questions:

1. ***How does emergent strategy form in large complex organizations?***
2. ***What is the role of autonomous strategic behaviour in this process?***
3. ***Why does autonomous strategic behaviour sometimes lead to emergent strategy, while in other cases fails to produce realized strategy?***

CHAPTER III: CASE STUDY

In this chapter, we present our research design (Section 3.1); introduce our research site (Section 3.2); and provide a high level description of the case (Section 3.3)

3.1 SINGLE EXPLORATORY EMBEDDED CASE STUDY

Given the nature of our research question, which investigates the "how" and "why" dynamics of the emergent strategy phenomenon, and given that the researcher has no control on the events related to the company's strategy making, the case study method is an appropriate research strategy for the study (Yin, 2003). A single case study is appropriate for exploratory research that is longitudinal and aimed at theory building (Yin, 2003). Another important feature of our design is that it represents an embedded case study: we investigate multiple levels of the organization (e.g. global variables such as structural context, as well as local variables such as the local objectives of organizational members conceiving and launching projects); we track multiple projects, which represent our sub-units of analysis, and carry out intra-organization comparative analysis at the project level. This embedded case study design allows us to study more than one sub-unit of analysis and to track different layers of the organization (Yin, 2003). In the following section, we investigate the relationship between emergent strategy and different levels of analysis, with reference to a view of emergence from complexity science (Goldstein, 1999).

Complexity science is a cross-disciplinary field dedicated to the study of complex systems and which increasingly informs organization studies (Maguire et al., 2006). Emergence is an important construct in complexity science (Goldstein, 1999). While the term "emergent strategy" has a precise meaning in strategic management literature - as per Mintzberg's definition which focuses on the absence of, or unrealized, intentions - it is important to note that complexity theorists encapsulate a broader concept in "emergence". The term emergence was first suggested by the philosopher George Lewes (1875). Whitehead (1926), Alexander (1920), McDougall (1929), Sellars (1922) and Morgan (1927) further challenged the established Cartesian epistemology by looking for emergent properties as unpredictable and non-additive results of complex systems (Hodgson, 2000). Eventually the advent of computing capabilities gave researchers new methodological tools to pursue the phenomenon of emergence which refers to the arising of novel and coherent structures, patterns, and properties during the process of self-organization (Goldstein, 1999). Essential to emergence is the notion of scale as emergent patterns are seen to occur "at the macro-level, in contrast to the micro-level components and processes out of which they arise" (Goldstein, 1999: 49). As a cross-disciplinary field complexity science provides a general definition of emergence which is useful to our understanding of emergent strategy. In particular, Bunge, a physicist and philosopher of science, provides a definition for emergence which recognizes both the importance of novelty and the ontological plurality of levels (Stacey, 1995).

Bunge (2004) frames emergence in terms of levels of analysis: the whole possesses properties which its parts lack, and emergence is defined as a property of the whole which the parts lack. Bunge also argues that the idea of emergence combines two

ideas, that of qualitative novelty and the occurrence of this novelty through a process. Therefore emergent strategy observed at the macro-level and in the absence of, or despite, macro-intentions is entirely consistent with triggering mechanisms and micro-intentions at the local level as the property of emergence is in reference to the whole of the organization and not to its parts. In fact, Bunge (2004) suggest that emergence ex-nihilo is ontologically questionable. In other words, emergence springs from an existing system which has parts interacting. While this is not a traditional causality in Newtonian terms, emergence is nonetheless "caused" by the system, i.e. its parts, their interaction and the arrow of time (Prigogine, 1996). From the above discussion we draw the following methodological implications for strategy: given the multi-layer ontology of emergence, our study needs to focus on multiple levels of the organization. This suggests the use of an embedded case study as appropriate.

We now proceed to discussing our choice of research site.

3.1 RESEARCH SITE & STUDY PERIOD

The research site for this study is a global company in the telecommunication industry, with particular emphasis on its technical support group. The study focuses on the ten-year span between 1997 and 2006, divided into half year intervals which provided us with twenty time periods for our data collection activities. For the purpose of our research we shall refer to the company as The Telecom Company (TTC). Its portfolio of products and services spans packet, optical, wireless and voice solutions. With sales in the billions and with thousands of employees, the company is an important player in the global economy and a source of technology innovation. Previous studies on strategy

formation have also focused on telecommunication and related industries as they have proven to be fertile research terrains. Such studies include work at Intel (Burgelman, 1994; 1996; Burgelman & Grove, 1996), at Bell South and US West (Noda & Bower, 1996) and at other telecom companies (Boyett & Currie, 2004).

A preliminary site visit to identify potential data showed that the strategic horizon for delivering and communicating priorities to organizational members was six months, yielding 20 half-year observation "slices" across the ten years studied, 1997-2006. In addition, our site visit revealed that the study's time period afforded access to a significant volume of data retrospectively while also enabling us to target recent historical events, which reduces time distortion during interviews (Langley, 1999), and facilitates access to relevant organizational members. While such a period may seem short compared to Mintzberg and McHugh's 36 year study of the NFB from 1939-1975, it is consistent with work done by Bower & Burgelman. Indeed, Burgelman (1994; 1996) studies Intel's exit from the DRAM business with data from 1971-1985, yet the exit decision which is the phenomenon of interest, covers a period of only two years from 1984-1985. Similarly Noda and Bower (1996) study the cellular market commitments of Bell South and US West between the years 1984-1994. Some studies of emergent strategy have used even shorter time frames. For instance, Boyett and Currie (2004) investigate the first two years of operations of Digicel, a privately owned mobile phone company in Ireland investing in Jamaica during 2001-2002. In conclusion, organizations and technologies change at varying pace but telecom and high technology industries offer examples of rapid change with their products and services having much shorter cycles.

These rapid strategic cycles make our research site attractive for a doctoral study on emergent strategy.

In addition to this, the researcher's prior work experience at TTC-SO from 2000-2002 granted him a unique opportunity to gain prolonged and privileged access to some of TTC-SO's middle and senior management in the customer support group. Indeed, the researcher's prior work experience at TTC-SO provided potential benefits in conducting this study. First, interviewees were able to discuss projects in greater details given the familiarity of the researcher with the people, groups, and technologies involved, thus providing for a richer account of events. Second, in the analysis of the data, the complexity of the telecommunications industry along with its technical terminology could have been an obstacle for someone without a prior in-depth understanding of the company, its projects and its technologies. Therefore, the researcher's prior knowledge of the field is an important asset in conducting this type of qualitative research: "getting close to the subject matter, including using her own experience, both from childhood and day-to-day in her adult life, illustrates the all-encompassing nature of in-depth qualitative inquiry" (Patton, 2002: 47). As such, the use of a single exploratory embedded case study coupled with the researcher's prior experience of the industry is consistent with engaged scholarship (Van de Ven & Johnson, 2006).

However, prior knowledge of events may create biases in analyzing historical data for the projects. More specifically, cognitive biases such as the prior hypothesis bias (Schwenk, 1984) can interfere with the researcher's ability to identify patterns in the data in abstraction of his experiential understanding of events at the time they unfolded. In order to mitigate this, special care was taken to triangulate the data (Yin, 2003) at the

level of each project by selecting multiple types of data for each project (i.e. archived and interview data) and by selecting multiple informants for each project (i.e. having more than one person discuss the project)[1].

In summary the researcher's prior experience at TTC coupled with exceptional on-site access created a unique setting conducive to the research, in a company which has comparable attributes to prior research sites in studies of emergent strategy. We now proceed to describe our data collection and analysis activities. We discuss the data sources for our study as well as the interview protocol followed.

3.3 CASE STUDY DESCRIPTION

In this section we give a detailed description of the site which was chosen for our research study. First we present a high level overview of the telecommunication industry; second we describe the company which hosted our study, The Telecommunication Company (TTC); third we present the specific organization in which the study was conducted, the Support Organization (TTC-SO); fourth and finally we give an overview of TTC-SO during our period of study, from 1997-2006.

[1] The researcher was a principal actor in the Customer Advocacy project at the time it unfolded. This project is discussed in details in Chapters 6, 7 and 8. Multiple informants and numerous archived documents were used for this project to reduce the risk of bias.

3.3.1 The Telecommunication Industry

In this section we present high level statistics and data about the telecommunication industry, as well as a simplified value chain in order to position TTC-SO's activities within its industry.

Telecommunication is a global industry with revenues in the neighbourhood of USD 3.85 Trillion in 2008[2]. Telecommunication, with its equipment and services, is part of people's daily lives. Applications are numerous and encompass fixed line telephones, internet, television, radio as well as mobile devices of all sorts such as cellular phones, emailing handheld devices, Global Positioning Systems and more. A significant portion of the planet's population is directly concerned by this industry as The International Telecommunication Union[3] statistics demonstrate: in 2007 there were 1.3 billion Internet users, 1.278 billion phone fixed phone lines and 3.305 mobile users. The numbers for internet and mobile devices are growing at a sustained pace as emerging economies increasingly get connected.

Table 4 shows the total number of telephone subscribers in selected countries and in the world. This includes fixed, mobile and internet telephone users. The table shows that while Germany and the United Kingdom are closing the gap on 200% penetration in their respective markets, emerging economies still have much upside potential. India, as an example, only registers 23% market penetration while China, the largest cellular

[2] Obtained from Plunkett Research ltd's website, accessed Nov 8, 2008 at http://www.plunkettresearch.com/Industries/Telecommunications/Telecommunicationstrends/tabid/95/Default.aspx

[3] Obtained from International Telecommunication Union's website, accessed Nov 8, 2008 at http://www.itu.int/ITU-D/ICTEYE/Indicators/Indicators.aspx

telephone market in the world, has achieved 68% market penetration. Both markets still have much growth potential before they reach Europe's penetration rates.

Table 4 : Total Telephone Subscribers[4]

Country	Total Number of Subscribers (Millions)	% of Subscribers per 100 of Population
Germany	151	182
United Kingdom	106	174
United States	419	137
Canada	40	122
Brazil	160	83
China	912	69
India	273	23
World	4,525	68

In addition to simple growth, the industry is experiencing increased demand for speed and throughput. Indeed, G8 countries like Germany, the UK and the United States, continue to transition to broadband access as users demand increasingly richer content, providing the industry with growth possibilities beyond the simple increase in subscribers. We now look in greater details at the site of our study, The Telecommunication Company (TTC).

3.3.2 TTC: The Telecommunication Company

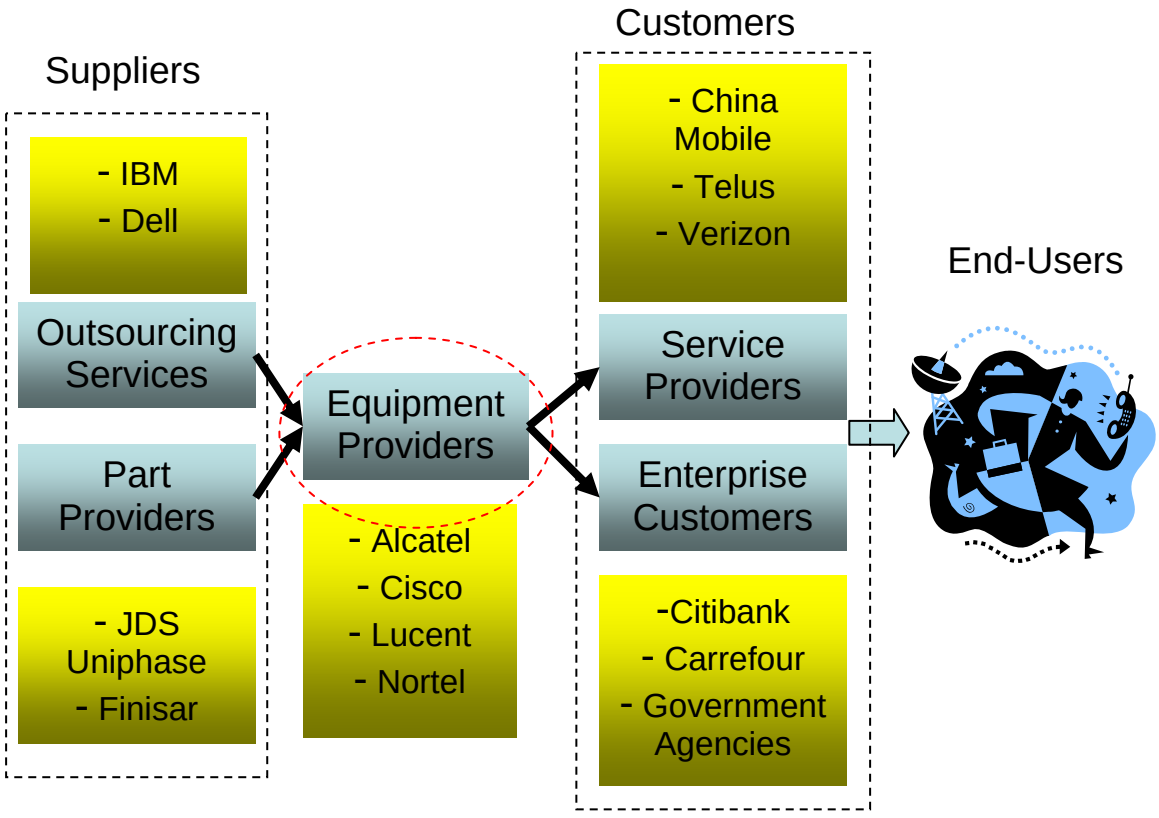
The Telecom Company (TTC) is an equipment provider. As such, it primarily focuses on selling products and related services. Its products consist of network components[5] and network solutions[6] which combine several components. It also

[4] Obtained from International Telecommunication Union's website, accessed Nov 8, 2008 at http://www.itu.int/ITU-D/ICTEYE/Indicators/Indicators.aspx.
[5] Telecommunication equipment such as hubs, switches, network cards, servers, or cables

develops network services[7], which refers to the layer of applications sitting immediately atop the network components. Figure 5 shows a simplified view of the industry value chain. TTC, as an equipment provider, rests midway in the value chain as it competes with firms such as Alcatel, Cisco, Lucent, Nortel and others. TTC has two main types of customers: service providers and enterprises. Service providers are the companies which deliver services such as cellular subscriptions to individuals and companies. In order to deliver their services, companies like China Mobile, Telus, Verizon require network components, solutions and services which they purchase from TTC and its competitors. Enterprise customers are companies or government agencies which purchase telecom components for their employees' computing and communication needs. These needs typically include phone, internet and email capabilities.

[6] Telecommunication solutions which may include several network components to produce complete network for customer such as short haul access components combined with long haul optical switches
[7] Network components or solutions built in order to deliver specific functionality for customers such as billing or hosting

Figure 5: TTC's Industry Value Chain, with examples of companies



In both cases, end users are the people using phones and computers to access information as part of their daily private life or during the course of their business activities. In this very simplified value chain we identify two main types of suppliers: part providers and outsourcing service companies.

Part providers may, on the one hand, deliver equipment to be included in the manufacturing of network components sold by TTC. For instance JDS Uniphase is a part provider, building optical tubes for optical network components. On the other hand, part providers may also supply network components to be included by TTC as part of larger network solutions offering the customers end-to-end functionality, without producing every single network element in the network solution sold. Outsourcing service

companies provide a wide range of services to the industry's equipment providers, including TTC, such as manufacturing of equipment, R&D and support functions or secondary activities such as building maintenance. They may also act as a labour supplier in providing punctual expertise under contractual or consulting engagements.

During the period of the study, TTC had six lines of business (LOBs) built around product technologies (Table 5). These are Optical, Access, Wireless, Core Networks, Switching and Enterprise.

Table 5: LOBs at TTC

Line Of Business (LOB)	Description
Optical	Optical networks are high-capacity telecommunications networks based on optical technologies and components that provide routing, grooming, and restoration at the wavelength level as well as wavelength-based services.[8] Optical products include multiservice SONET (asynchronous communication), Optical Ethernet, Optical Switches and Wavelength Division Multiplexers used to carry multiple signals across a single optical fiber.
Access	Access networks enable end-user connectivity into the network. Access products include Modems.
Wireless	Wireless networks include any type of computer network that is wireless, and is commonly associated with a telecommunication network whose interconnections between nodes is implemented without the use of wires. Wireless products includes CDMA (radio technologies), GSM (mobile phone technology) WiMax (delivery of last mile wireless communication over microwaves).
Core Networks	Carrier Networks include data and voice technologies. Carrier products include packet switching, Ethernet in LANs (Local Area Network) and Frame Relay in WANs (Wide Area Network).
Switching	Switching Networks refers to all legacy circuit switched telephone networks.
Enterprise	Enterprise Networks feature products and solutions for enterprise customers. They may include all the technologies in the other LOBs. However, enterprise products typically have lesser capacity, command a lower price and may have enterprise specific functionality and services.

[8] http://www.iec.org/online/tutorials/opt_net/

In the following section we discuss the support organization at TTC, which is the focal organization of our study.

3.3.3 TTC-SO: The Support Organization

TTC is a global telecommunication equipment provider with tens of thousands employees. Our study focuses on one of TTC's support organization. The number of employees for this organization fluctuated between 1000 and 4000 during the time of the study. The support organization plays a major role in the company as it hosts the people responsible for delivering customer services and technical support for the equipment installed in the customers' network. Activities in this organization have an important impact on overall customer satisfaction, on product quality and on sustained revenue growth as service features are an important product attribute. Table 6 lists some of the tasks performed by this group as an illustration of the work performed.

Table 6: Typical Tasks Performed at TTC-SO

Task	Description
Ticket Opening	Documenting customer issue, opening case, routing customer call
Fault Isolation	Identifying issue, isolating problem
Problem Reproduction	Using lab equipment to duplicate customer issue
Migration Assistance	Helping customer change build on existing equipment
Status Review	Holding calls with customer engineers to discuss status of various tickets
Trial Support	Supporting R&D as they test new loads on customer site or internally
Patch Release	Delivering a fix to customer network nodes
Emergency Recovery	Restoring failed cards or nodes in customer network
Interoperability Testing	Testing for compatibility between TTC components and other equipment provider equipment
Laboratory Management	Setting and maintaining laboratory equipment
Metrics Creation	Building reports to assess work on hand
Customer Training	Educating and training customer on equipment features

The main work of TTC-SO is therefore to field customer calls and to provide technical expertise and support for network components and solutions. The problems range in severity, from minor issues such as requests for documentation to critical issues where the customer is losing significant amounts of money as a result of a loss of service from failure of network elements.

The tasks performed by TTC-SO people may be grouped into functions. There are five typical functional groups at TTC: New Product Introduction, Product Support, Engineering, Software Management and Installation (Table 7).

Table 7: Products & Functions at TTC

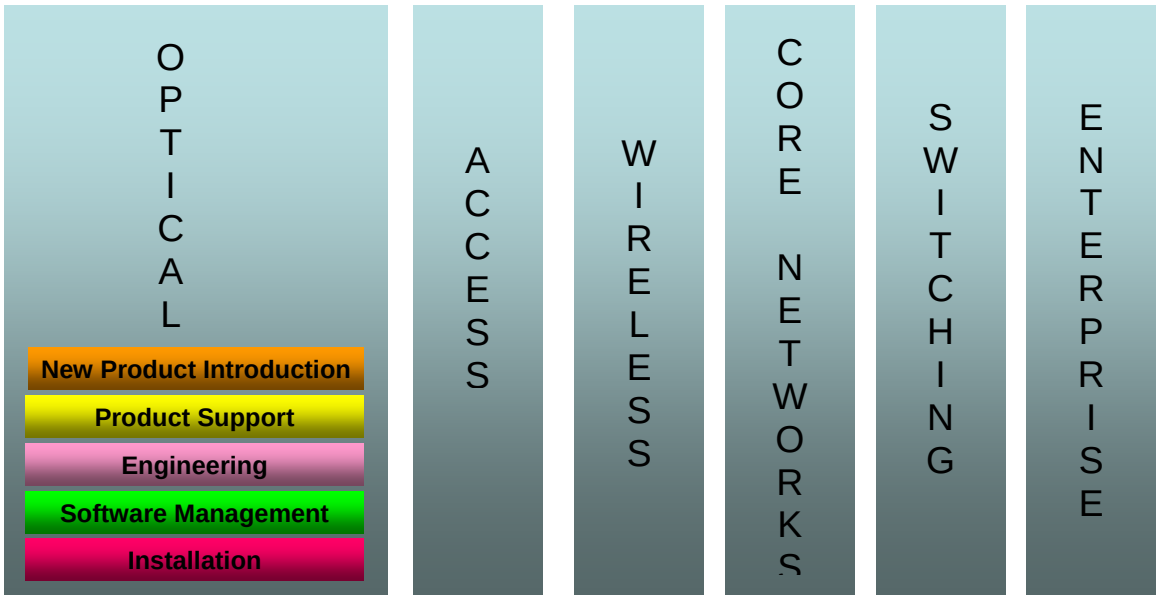
Functions	Description
New Product Introduction	Pre-in-service introduction of new products and services at customer sites. This is the final phase of design as the products are approved by customers.
Product Support	Post-in-service front line, second line and emergency recovery assistance.
Engineering	Research & development or solution and product configuration
Software Management	Release management as new software builds are rolled out to existing customer sites once they are made available by the design teams.
Installation	Physical delivery and installation of products once they have been engineered

During our period of study, TTC-SO was organized along two dimensions. The first, which was product-based, was the basis for the managerial hierarchy between 1997 and 2000. The second, which was function-based, was in place between 2000 and 2006. The change of structural context, as we discuss in subsequent chapters, played a role in the formation of emergent strategy as we uncovered cases of autonomous strategic

behaviour which were impacted by this change. We now present an overview of TTC-SO from both structural context perspectives

In the product-based view, TTC organized itself around its main Lines of Business (LOB). The explicit rationale for this was to put the technology at the center of the decision process. With this configuration, the overarching objective was to cater to each LOB by assigning one General Manager per product and giving each the ability to customize processes and tools according to "their" technology imperatives. The main drawbacks of such an organization are the potential duplication of tools and the creation of product-based "silos" across which communication becomes difficult. Figure 6 shows TTC-SO's product-based organization structure for the period 1997-2000. For simplicity and ease of reading, in this diagram only the first LOB (Optical) has been expanded to illustrate the five functions executed there, but all five of these functions were in fact executed in each of the six LOBs.

Figure 6: Product-based structure of TTC-SO (1997-2000)[9]



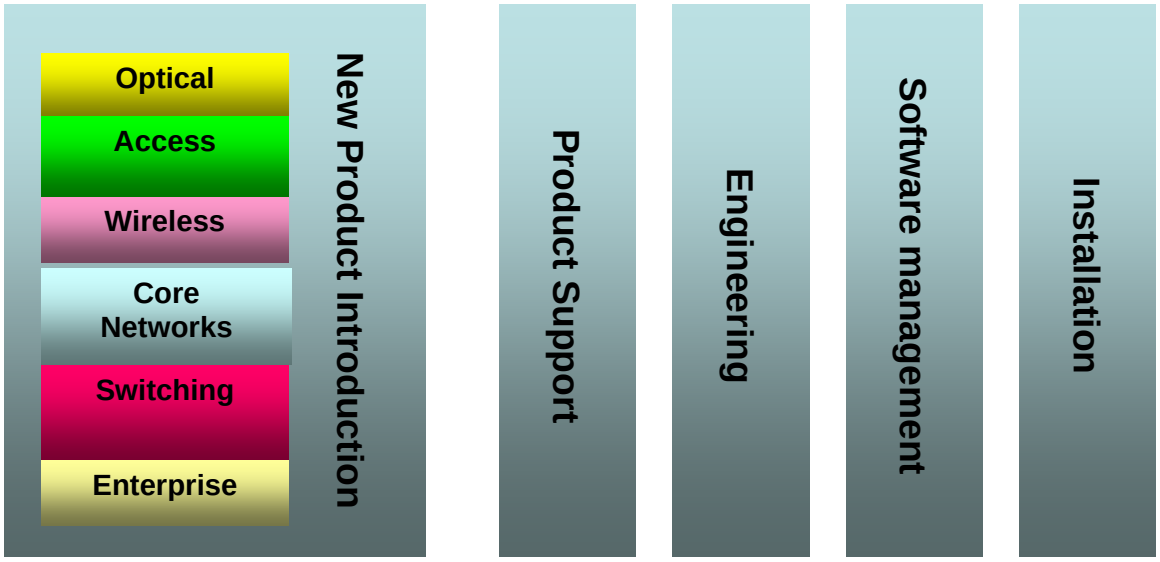
Such a structure yields flexibility to have some level of customization of the functions depending on what product they support. This comes at the cost of having variability on how some of the work is performed between the various product groups; and, in some cases, it also means having to develop similar tools thus creating a level of duplication across the product groups.

The second organizational structure adopted by TTC-SO over the course of our study period was a function-based one. In 2000, TTC-SO was re-structured to emphasize the main support functions associated with delivering the various services required by the customers. In order to transition from a product-based structure to a function-based structure, decisions were made to standardize how the work was performed in each of the functions, and to achieve single work processes from the previous multiple ways of doing things co-existing across the various product LOB's. Figure 7 shows TTC-SO's function-

[9] Source: SPS package, 2001

based organization structure for the period 2000-2001. For simplicity and ease of reading, in this diagram only the first function has been expanded to illustrate the six product lines supported there, but all six of these products were in fact supported in each of the five functions.

Figure 7: Function-based structure of TTC-SO, 2000-2001[10]



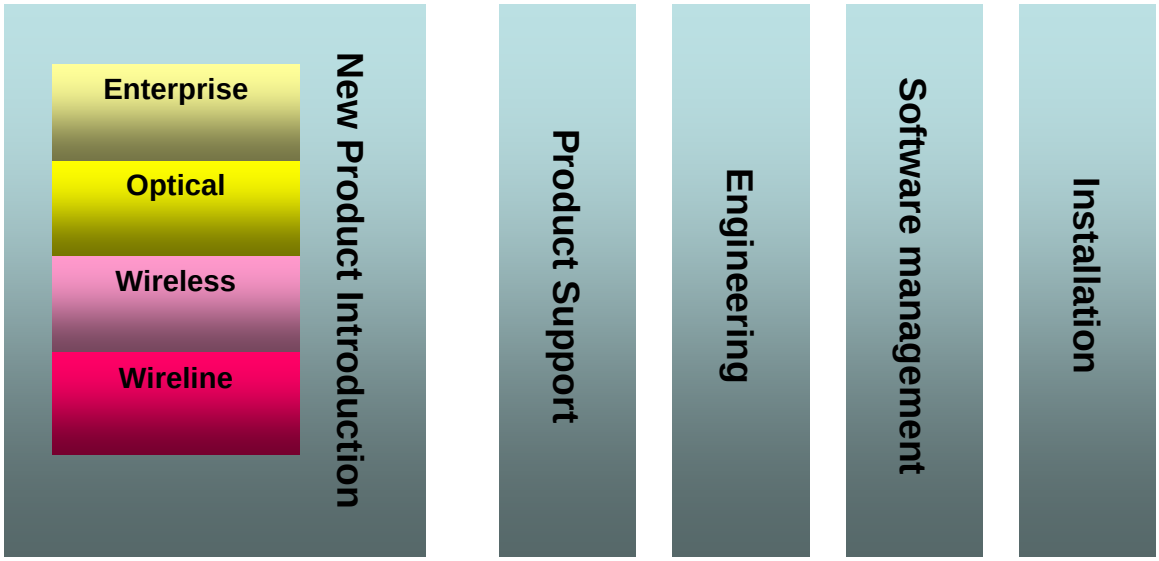
This structure encourages the use of similar tools to provide support and expertise across the different technological LOBs, providing increased visibility to work performed across traditional technology silos. Its main drawbacks are the potential for oversimplification of processes due to standardization, and the creation of new silos, albeit along function lines.

While we show six distinct product lines in Figure 7, this was only the case until 2001 as the portfolio went through major streamlining thereafter. Indeed, between the years 2002 and 2006, within each function, TTC-SO structured itself around four Lines

[10] Source: SPS package, 2001

of Business: Enterprise, Optical, Wireless and Wireline. In 2002, it divested some of its Access products and consolidated the remainder, along with Switching and Core Networks into its existing Wireless groups and a new Wireline group[11]. The organization structure for TTC-SO for 2002-2006 is shown in Figure 8.

Figure 8: Function-based structure of TTC-SO, 2002-2006



In the next section we look at TTC-SO more specifically during our study period, as we discuss the major events which occurred over the ten years 1997-2006.

3.3.4 The Period 1997-2006 at TTC-SO

Over the study period (1997-2006), TTC-SO experienced numerous changes in its environment. In this section we present environmental events and trends (Table 8) which have affected TTC-SO. As we outline in subsequent chapters, these events and trends played a role in the formation of emergent strategy.

[11] Source: year end report, 2002

Table 8: Major Environment Events and Trends

Event	Description
Emerging Markets, Globalization	1997-2006: Liberalization of new markets, emergence of new economies.
Mergers & Acquisitions	1997-2000: telecommunication industry entered a period of intense M&A activities.
Dot-Com Bubble	2000-2001: Major market contraction for Internet and Technology companies
Accounting Scandals	2001-2003: Accounting irregularities and fraud perpetrated by large number of companies. Many telecom companies involved.
9/11, Catastrophic Events	2001-2005: 9/11 terrorist attacks on New York, 2003 Ontario and eastern US power outages, and more.

Emerging Markets, Globalization

The first environmental variable of importance is the democratization of connectivity over our period of study. In particular, China has fuelled tremendous growth in the mobile market over our study period. While the subscriber base in China was around 43 million in 1999[12], it had reached more than 547 million sets in 2007[13]. Such an explosive growth sees China send more text messages than the rest of the world, with more than 150 Billion messages for the largest provider only (China Mobile)[14]. TTC, like many of its competitors has developed an important stake in the Chinese market. The majority of the activity in China was in relation to the explosive growth of the use of mobile phone by Chinese men and women. TTC developed joint R&D facilities and delivered various networks using wireless technologies all targeting the mobile

[12] http://english.peopledaily.com.cn/english/200006/22/eng20000622_43723.html
[13] Obtained from Xorte News, at http://www.asia.xorte.com/0,5,Demands-and-Technology-Drive-Growth-of-China-s-Mobile-Phone-Market,5894.html, accessed Nov 11, 2008
[14] Obtained from China Mobile's website, at http://www.chinamobileltd.com/ir.php?menu=12, accessed Nov 11, 2008

communication markets. The Chinese market, while important to all equipment providers because of its size, is only one of many new emerging markets. Indeed, other markets display similar impressive growth curves. "In 2003, we also began to see the high growth of telecom services in markets such as India, Korea, China and Russia."[15] In our study, this trend for global demand and the creation of a global user base manifested itself by the sustained shift at TTC towards harmonizing functional work through the implementation of global processes and toward developing global support models as well as considering off-shoring strategies.

Mergers & Acquisitions

The second important trend in TTC's environment was the accelerated rate of mergers and acquisitions during the first part of our study period. TTC was very active in the M&A phase as it acquired companies in all of its Lines of business. This reduced "time to market" for new products by purchasing research & development efforts from other companies rather than developing all the products in-house. For TTC-SO it meant having to integrate new organizational units from acquired companies. It also meant, in some cases, having to streamline and rationalize duplicated processes and tools in order to offer an identical customer experience across the business units. While the company completed several M&A, three transactions had a particular impact on our study (Table 9).

[15] 2003 year-end report

Table 9: Mergers & Acquisitions

M&A	Impact
Enterprise Data Company (1998)	Integration issues with large established company in order to merge tools and processes
CRM Company (1998)	Standard internal CRM tool used in all product groups. Several migrations from rival CRM platforms previously established as the standard.
Internet Service Company (1999)	Increased quality focus to bring acquired platform to carrier level standards. Employee satisfaction issues due to overtime and night shift

In 1998, TTC merged with one of its principal North American rivals, mainly for the latter's Enterprise Networks business. The merger aimed to broaden the portfolio of TTC and to position it as the clear leader for those products. However, given such a large scale merger, decisions had to be made to align the end-to-end customer experience without alienating previous successful customer relationships. For TTC-SO, this meant streamlining duplicated customer relationship management tools, merging call center processes, as well as integrating previously rival product support teams.

Also in 1998, TTC acquired a major Customer Relationship Management company. This move, which may be categorized as unrelated diversification, happened fortuitously at the same period as TTC-SO was aligning some of its processes and tools. For TTC-SO, the acquired CRM tool became the standard for support as all groups were mandated to migrate to it and were obligated to adjust their processes to comply with it.

The third acquisition of importance for our study happened in 1999. TTC acquired an internet service platform which was deemed strategic for TTC's portfolio breadth, given the internet focus at the time. This platform had been developed by a

relatively small company and its reliability was not on par with the remainder of the products in TTC's portfolio. This meant that great efforts were expanded by TTC-SO to focus on quality and to help establish processes which would conform to TTC's customer standards.

The Dot-Com Bubble

The most important environmental shock during our period of study was the Dot-Com Bubble, otherwise known as the IT Bubble, Internet Bubble or Tech Bubble. There have been different explanations for the phenomenon which saw major companies, considered blue chip investment at the time, (France Telecom, Cisco, Nortel, to name but a few) lose up to 90% of their stock value. For some of these companies, the burst of the bubble in 2000-2001 meant bankruptcy (freeinternet.com[16], WebVan[17]), while others were purchased at a fraction of their pre-2000 values (Hotmail[18], The Learning Company[19]). For the telecom industry, the burst of the bubble meant that customer orders dropped significantly over a very short period of time. Using 1997 as a reference year we can see that revenues almost doubled between 1997 and 2000 while they were cut by two thirds between 2000 and 2004 (Table 10).

[16] Obtained at http://seattlepi.nwsource.com/business/vc131.shtml, accessed Nov 11, 2008
[17] Obtained from CNET News, at http://news.cnet.com/2100-1017-269594.html, accessed Nov 11, 2008
[18] Purchased by Microsoft for USD$400 million. Obtained from CNET News, at http://international.com.com/2100-1033-206717.html, accessed Nov 11, 2008
[19] Purchased by Mattel for USD$3.5 billion, sold for fraction of future profits. Obtained from InternetNews.com, at http://www.internetnews.com/bus-news/article.php/473901, accessed Nov, 11, 2008

Table 10: TTC 1997-2006 Revenue and Employee Numbers

Year	Revenue 1997 ref year[20]	Employees 1997 ref year[21]
1997	100	100.0
1998	113.8	104.3
1999	127.1	112.2
2000	180.8	138.3
2001	122.3	77.0
2002	71.3	54.1
2003	64.3	53.3
2004	61.4	52.6
2005	68.0	51.8
2006	73.9	49.7

TTC survived the burst of the bubble; however it did so at a great cost for its employee base. In the year 2001, TTC had a large operating loss like other companies in the industry. In order to survive, the company had to greatly reduce its workforce levels. Indeed, we can see that in 2000 the employees had reached 138% of the 1997 levels. Two years later that figure had dropped to only 54%. This represents more than a 60% drop in employee numbers over a two year period, a drastic reduction.

While the workforce reduction and the overall revenue levels for the company are not the object of our inquiry, they are nonetheless important. The implications for TTC-SO were twofold: In the years 2000-2004, we see on the one hand a sustained shift towards cost reduction and on the other hand a push for standardized processes and tools.

Accounting Scandals

[20] The revenues were extracted from msn.com 10 year company summary. They were converted into 1997 levels using that year as the reference year and setting its revenue level to 100. All other years are displayed relative to 1997 levels.

[21] The employee numbers were extracted from TTC year end reports. 1997 was established as the reference year and set to 100. All other years are relative to 1997 levels.

Another important event in the environment was the widespread accounting scandals in several industries in recent years. In the years following the Dot-Com bubble 2000-2003, many companies were found guilty of manipulating numbers to reflect positively on their results. Several telecommunication companies were involved in those scandals. These include large established organizations such as Qwest[22] , Lucent[23], and WorldCom[24]. Among the most prominent companies involved in scandals, Enron and Arthur Anderson[25], both disappeared as a result of the indictment of several executives and the loss of credibility ensuing from the fraudulent activity. As a result of these scandals several important customers disappeared from TTC-SO's portfolio.

9/11, Catastrophic Events

The final environmental shock relevant to our analysis is the advent of catastrophic events in the world and more specifically in the United States. On September 11, 2001 two planes crashed in the twin towers in New York City. In the days which followed the event, TTC-SO worked to restore essential communication services to rescuers who worked on the ground to help victims and to companies which had seen part of their infrastructure destroyed. Services to most customers were back-up and running in less than 48 hours. For one of the customers, TTC-SO marshalled 125,000 network components and shipped 25,000 of those in less than 3 days.

After the terrorist attack, the renewed efforts to fight worldwide terrorist activities translated into a new emphasis on telecommunication security. For TTC-SO, this

[22] Obtained from CNET News, at http://news.cnet.com/2100-1033-939610.html, accessed Nov 11, 2008
[23] Obtained from the Washington Post website, at http://www.washingtonpost.com/wp-dyn/articles/A34620-2004May17.html, accessed Nov 11, 2008
[24] Obtained from CNET News, at http://news.cnet.com/2100-1033-939610.html, accessed Nov 11, 2008
[25] Obtained from CBC News, at http://www.cbc.ca/money/story/2002/10/16/arthurandersen_021016.html, accessed Nov 11, 2008

translated into renewed efforts towards providing support for security features and services.

The events we have discussed in this section had important impacts for our focal organization. Table 11 summarizes these impacts on the organization.

Table 11: Major Events in Telecom Industry: Summary for TTC-SO

Event	Impact for TTC-SO
Emerging Markets, Globalization 1997-2006	Global demand led TTC-SO to establish global processes and global support models. This prompted common processes across different products which were eventually centralized under function-based view of the organization.
Mergers & Acquisitions 1997-2000	M&A led TTC-SO to streamline duplicate tools and processes between legacy business and newly acquired business
Dot-Com Bubble 2000-2001	Dot-Com Bubble leads TTC-SO to undertake significant workforce reductions
Accounting Scandals 2001-2003	Accounting Scandals had limited impact on TTC-SO directly. However, several prominent customers went bankrupt
9/11, Catastrophic Events 2001-2005	Catastrophic Events prompted TTC-SO to renew its efforts towards providing security features & services

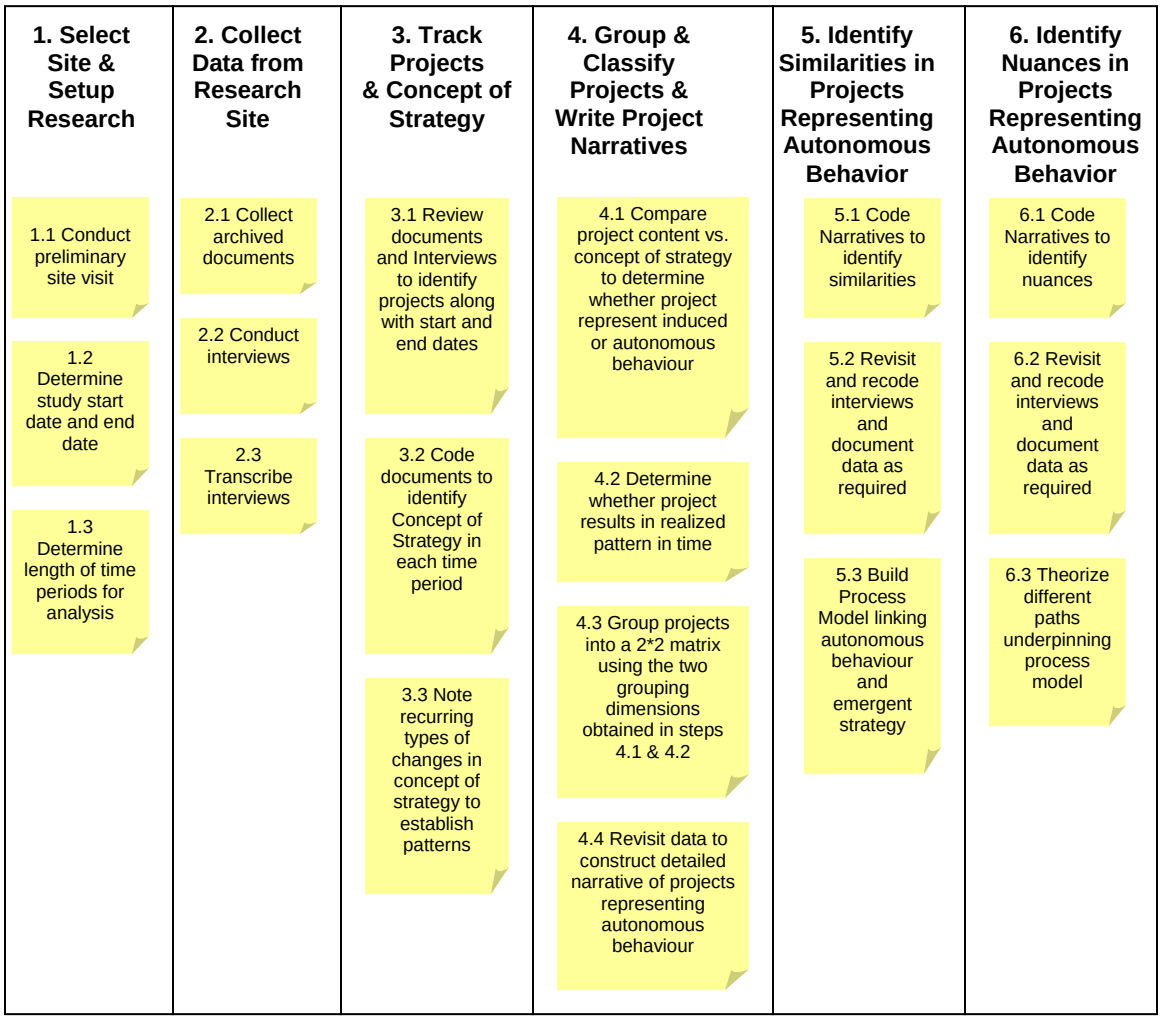
CHAPTER IV: METHODS

In this chapter we present the methods and data analysis for our study. First we present an overview of the study (Section 4.1). Second, we discuss the operationalization of constructs (Section 4.2). This chapter sets the context for presenting: findings on the evolution of the concept of strategy at TTC-SO (Chapter 5); findings on autonomous strategic behaviour at TTC-SO (Chapter 6); an inductively derived process model linking autonomous behaviour and emergent strategy along with paths of formation dynamics (Chapter 7); and illustrations of the model using empirical instances of autonomous behaviour from our case study (Chapter 8).

4.1 STUDY OVERVIEW

As a first step (Figure 9), we conducted a preliminary site visit during which we were granted access to archived documents. An initial review of these documents enabled us to determine the appropriate time period for organizing and coding the data to be six month increments. Process data is concerned with understanding eclectic events unfolding over time, which often have ambiguous boundaries of variable temporal embeddedness (Langley, 1999). Our decision to parse the data into six month periods was based on the fact that the archived documents we surveyed were produced twice each year. Our time period thus aligns with our focal organization's internal rate of communicating its objectives and accomplishments to its organizational members.

Figure 9: Study Overview



The second step consisted of collecting data from the research site. Building theory from case study research is inductive and iterative (Eisenhardt, 1989a) and typically requires multiple sources of data (Yin, 2003; Eisenhardt, 1989a; Langley, 1999). For this study we used six distinct types of data sources (Table 12): Strategic Presentation Slides "SPS" packages, which are strategic documents describing the

accomplishments of the organization), Interviews, Corporate Emails, Metrics, Year-end Reports, and Ad-Hoc Documents.

Table 12: Data Sources

Data	Type	Format	Quantity
SPS Packages	Archived	Power Point slide shows	89 documents / ≈ 1500-2000 slides
Interviews	Discussions with employees	Transcribed / Notes	30 interviews / 191 pages
Corporate Emails	Archived	Text	≈ 2000 emails
Metrics	Archived	Tables	several
Year-end Reports	Public Documents	Text (Pdf, Word, Online)	10 years
Ad-Hoc documents	Archived	Charts, graphs	numerous

SPS packages are operational and strategic documents describing the accomplishments of the organization and establishing the current and future priorities for the group. Interviews are the documented discussions we conducted with organizational actors. Metrics packages include a series of measurements which help management understand how well they are performing against objectives established in the operational and strategic documents. Corporate emails announce corporate changes to strategy as well the appointment of new senior executives. We also supplemented our data collection with year-end reports published by the organization and with ad-hoc archival documents collected during our on-site study.

The second step included conducting and transcribing interviews. “Researchers interested in understanding complex and subtle strategy formation processes tend to use extensive interviewing within a small number of organizations” (Huff & Reger, 1987: 225). The interviews were semi-structured and featured three broad categories of

questions. The first set of questions aimed to build a situational understanding of the projects in which the person was involved. It established what the pattern of activities entailed, how they fit with the rest of the organization, and what the role of the interviewee was with respect to the project and initiatives. The second set of questions focused on building a history of critical events by probing for milestones leading to the activities' completion or abandonment. The final set of questions attempted to discover the dynamics which shaped the events. Interviewees were asked to reflect on the role played by organizational members and the interactions within and beyond the unit's boundaries.

A total of 30 interviews were conducted within the organizational unit: 18 interviews were recorded and transcribed; while 12 were not recorded but interview summary notes were produced. Middle managers were the principle target of the study and as such we conducted 8 director level interviews, 12 manager level interviews and 10 project manager level interviews.

In the third step we built a list of all projects and ongoing activities, which we subsequently tracked over the ten year period. For each project we established start and end dates. In addition to this, using SPS packages, we tracked the concept of strategy for each time period and noted changes. The concept of strategy reflects the more or less explicit articulation of the firm's theory about its past concrete achievements and objectives for future achievements (cf. Burgelman, 1983b).

The fourth step consisted of grouping projects along two dimensions. First, by comparing projects and ongoing activities at the point they were initiated with the concept of strategy at the same point in time, we separated the projects into two groups of

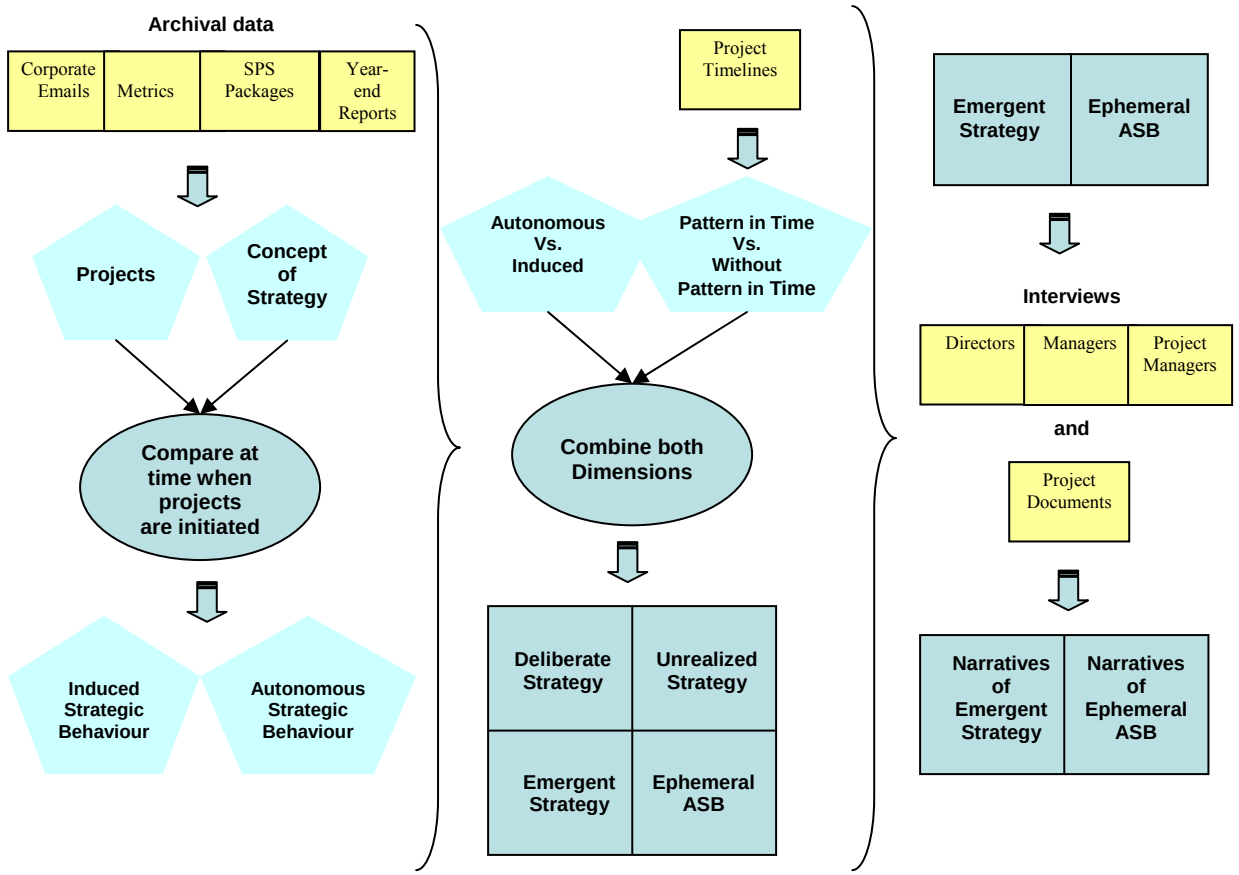
"induced behaviour" vs. "autonomous behaviour". Then by looking at the duration of the projects and activities and noting whether they continued for four or more consecutive periods, we separated them along a second dimension; that is, either "with a pattern in time" (those projects enduring four or more consecutive periods) or "without a pattern in time" (those projects failing to endure four or more consecutive periods). We chose four or more consecutive periods as a conservative threshold for assessing the existence of a "pattern in streams of actions" (cf. Mintzberg & Waters 1985: 257) based on conversations with organizational members, combined with our own insider knowledge; a project or activity which continued for four or more periods (i.e. 2 years or more), in the dynamic telecommunications industry, was widely considered an enduring one, i.e. constituting a clear pattern.

By combining both dimensions we were able to group the project into four strategy making outcomes. Induced strategic behaviour with a pattern in time represents "deliberate strategy"; while induced strategic behaviour which does not endure represents "unrealized strategy". Similarly, autonomous strategic behaviour with a pattern in time represents "emergent strategy"; while autonomous behaviour which does not endure was labeled as "ephemeral autonomous strategic behaviour" (EASB), i.e. strategic activity launched by organizational members in an autonomous fashion, but which never takes hold and eventually disappears.

The fourth step consisted of a forward tracking of projects using fine-grained data in order to follow autonomous strategic behaviour. Our forward tracking of projects representing autonomous strategic behaviour (Figure 10) was done by constructing detailed narratives for each project using interviews and project documents; as well as

comparing the concept of strategy with the projects at each six month interval, noting how both evolved and, in particular, whether an initially autonomous project appeared to influence the concept of strategy as it endured in time.

Figure 10: Tracking Projects Representing Autonomous Strategic Behaviour Forward in Time



The fifth and sixth steps consisted of identifying similarities and differences in the evolution of projects representing autonomous behaviour through the coding of narratives of emergent strategy and ephemeral ASB, to build a process model of emergent strategy formation and to theorize distinct mechanisms therein. Such a narrative approach affords

high descriptive accuracy (Langley, 1999) so represents a good choice for uncovering underlying mechanisms at play.

The narratives were coded on two levels: first using terminology grounded in the data (e.g. "supportability", "customer advocacy", etc) and second using more abstract constructs (e.g. "strategic context", "structural context") (cf. Maguire and Phillips, 2008). Consistent with recommendations for conducting qualitative research (cf. Eisenhardt, 1989b; Langley, 1999), the first level constructs were developed through inductive exploration and coding of narratives while the second level constructs were a combination of inductive terms and constructs from extant theory. The archived documents and interviews were also revisited and recoded. From this analysis we built a process model linking autonomous strategic behaviour and emergent strategy, described in chapter seven. We also identified formation paths highlighting different dynamics and grouped the projects along the paths theorized, as described in chapter seven.

In the following sections we present our rationale for operationalization choices made in this study.

4.2 OPERATIONALIZING THE MAIN CONCEPTS OF THE STUDY

While the notion of strategy has established itself as a central construct in both management and organization theory literatures, it continues to carry multiple meanings. In order to contend with such multiplicity we attempted to identify fruitful common ground among two leading views: Porter's (1996) and Mintzberg's (1987b). In addition to the challenge of operationalizing a concept which carries multiple definitions, we had

to also address the multiple organizational levels to which the notion of strategy could be applied.

The notion of strategy has developed in different directions and its early history suggests it has resisted a common definition and operationalization (Hambrick, 1980). Porter (1996) argues that activities are the basic unit of competitive advantage. In that context he views "strategic positioning as performing different activities from rivals or performing similar activities in different ways" (Porter 1996: 62). The uniqueness of strategy thus comes from choosing a unique mix of activities. Such a definition for strategy has a distinct flavour which makes it appealing to researchers like us who are looking to operationalize the concept at a micro level of analysis; it implies that tracking strategy means examining individual activities of an organization. Porter also claims that strategy is different from operational effectiveness (OE). The former is about performing different activities or similar activities differently while the latter aims to perform similar activities better. It may be useful for organizations to distinguish what is strategic from what leads to OE; however we found that such a distinction could prove difficult to operationalize since it could be argued that doing things better often leads to doing them differently, at least on some micro level.

Porter however also reminds us that strategy is about combining activities. This suggests a link between Porter's view of strategy as a portfolio of activities and Mintzberg's view of strategy as a pattern (1978). The main difference between the two views rests with the relationship to time as a variable. Porter's approach focuses on the mix of activities at a given time while Mintzberg's approach views strategy as a pattern which unfolds over time. In their study of National Film Board (NFB) of Canada,

Mintzberg and McHugh (1985) look at patterns in film categories over a 60 year longitudinal study. They track the density of various categories and infer strategic changes from patterns in film density, noting that one such strategic shift resulted from a concentration of short documentaries as a result of early success by one particular film producer, i.e. represents emergent strategy. We see fertile common ground between Porter and Mintzberg's definitions, and as such our study has tracked ***strategy as a portfolio of activities evolving over time.*** Table 13 below lists the main concepts of our study and gives a summary description of their operationalization.

Table 13: Main Concepts and their Operationalization

Concepts	Definition	Operationalization	Data Source
Strategy	Positioning as performing different activities from rivals or performing similar activities in different ways. (cf. Porter, 1996)	Portfolio of activities at a given point in time related to ➢ Products ➢ Markets ➢ Boundary of firm ➢ How operational activities are performed	➢ SPS ➢ Metrics
Realized Strategy	Pattern in actions. (cf. Mintzberg & Waters, 1985)	Patterns in activities enduring four or more periods	➢ SPS ➢ Metrics
Concept of Strategy	More or less explicit articulation of the firm's theory about its past concrete achievements. (cf. Burgelman, 1983b)	Concepts (strategic categories and relations between them) used to articulate corporate strategy in formal statements of TTC about products, markets, the boundary of the firm or how operations should be performed	➢ Corporate emails ➢ Annual reports ➢ SPS
Deliberate Strategy	Patterns or consistencies realized from intended strategies. (Mintzberg & Waters, 1985)	INFERRED FROM realized strategy AND concept of strategy. ➢ Patterns in activities which fit the concept of strategy at the time of formation of the pattern.	NA
Emergent Strategy	Patterns or consistencies realized despite, or in the absence of, intentions. (Mintzberg & Waters, 1985)	INFERRED FROM realized strategy AND concept of strategy. Patterns in activities which	NA

		do not fit the concept of strategy at the time of formation of the pattern.	
Induced Strategic Behaviour	Behaviour which uses the categories provided by the current concept of strategy to identify opportunities (cf. Burgelman, 1983b)	INFERRED FROM strategic activities AND concept of strategy Strategic activities which are induced from concept of strategy.	NA
Autonomous Strategic Behaviour	Behaviour which is not induced by the current concept of strategy (cf. Burgelman, 1983b)	INFERRED FROM strategic activities AND concept of strategy ➢ Strategic activities which are non-induced from concept of strategy.	NA
Structural Context	Formal administrative mechanisms that management can manipulate to change the perceived interests of the strategic actors in the organization (Bower, 1970, Burgelman, 1983b)	➢ Formal organization structure chart ➢ Resources (headcount) per unit on chart ➢ Geographic location of units on chart ➢ Labels and names of units on chart ➢ Responsibilities of units on chart	➢ Interviews ➢ SPS
Strategic Context	Efforts of middle managers to link autonomous strategic behaviours into the corporation's concept of strategy (cf. Burgelman, 1983b)	➢ Efforts deployed by middle managers to link concept of strategy with autonomous behaviour. ➢ Strategic rationale used to defend autonomous behaviour ➢ Strategic categories "invoked" in linking autonomous behaviour with concept of strategy	➢ Interviews ➢ SPS
Strategic Dissonance	Divergence between intent and action in the organization (cf. Burgelman & Grove, 1996)	INFERRED FROM autonomous strategic behaviour AND concept of strategy ➢ Gap between concept of strategy and activities performed by middle and lower level organizational actors	NA

We now discuss the following operationalization in greater detail in the next sections: realized strategy (Section 4.2.1); the concept of strategy, emergent strategy, deliberate strategy (Section 4.2.2); autonomous strategic behaviour, strategic context, structural context and; strategic dissonance (Section 4.2.3).

4.2.1 Operationalizing Realized Strategy at TTC-SO

The plurality of levels to which the notion of strategy may be applied is yet another source of variation in the operationalization of strategy. At the highest level we have corporate strategy which sets the direction by delimiting the industries in which the firm competes; and determines the boundary of the firm. Next, within each of the business units, organizations formulate and implement business strategy. While corporate strategy focuses on which product/market, i.e. industry to be in (Ansoff, 1965), business strategy contemplates how a firm should compete in a given industry (Hambrick, 1980). At yet another level, which may be across businesses or within each business unit, organizations elaborate functional strategy. Much like business strategy, functional strategy is concerned with how to compete, however this time, with reference to a particular function such as marketing, human resource management, operations, etc.

In the case of a large telecom organization, corporate strategy choices are made around products or services offered (i.e. wireless, optical, voice, data) and markets (U.S., Europe, Asia, Carriers, Enterprise), as well as which activities are to be performed in-house or outsourced, i.e. decisions about the boundary of the firm; business strategy choices determine how to compete in a given line of business (e.g. “cost leadership” or “differentiation” or “niche” in the Enterprise segment in North America); while

functional strategy choices establish the major policies and resource allocations determining how a given function is carried out (i.e. Design, Sales & Marketing, Support & Services, Manufacturing).

The organization we have studied is a functional global support & service arm for one of TTC's lines of business, a group historically focused on large telecommunication customers. As such we have tracked strategy in a functional group. While different strategy layers may be captured conceptually by corporate, business and functional strategies, in practice boundaries between these conceptual levels may be blurred as they interact and affect one another. For instance, the introduction of a new product by means of an acquisition, i.e. a corporate strategy decision, may significantly change the functional strategy by altering the way support is delivered for all products as old and new processes are merged. Similarly, design solutions in one line of business (LOB) may affect the way all LOBs choose to compete. In conclusion, tracking strategy entails tracking all three levels, i.e. corporate, business and functional strategy. In this study, we do so by operationalizing strategy as an evolving portfolio of activities related to these different levels, i.e. products, markets, firm boundaries, and how operations are performed.

Table 14: Activities to be tracked when operationalizing "strategy"

Activities related to …	Operationalization (what was tracked over time)
Products/Services	➢ products and solutions supported
Markets	➢ mix of customers by type (solution providers vs. enterprise), variety (internal v. external), size (small vs. large) and geographical location
Boundary of firm, i.e. *which* activities are performed, cf. Porter, 1996	➢ mix of internal and outsourced activities (decisions to bring activities in-house or to outsource them will be used to track changes to the boundary of the firm)
How operational activities are performed (cf. Porter, 1996)	➢ support tools ➢ support processes ➢ support projects

Table 14 above, identifies a list of elements of strategy we tracked in order to operationalize realized strategy at TTC.

"Products" refers to the company's physical products sold to the customer such as routers, switches or servers while solutions are aggregates of products which may even include 3rd party products interacting with TTC's in house products and services. "Markets" feature the type of customers supported by the organization. They include the customer's business type such as service providers or enterprise as well as its size and geographical location. Products, solutions and markets represent TTC's corporate strategy choices. "Boundary of the firm" describes TTC's choices regarding outsourcing in delivering customer service. They may for instance include choices to assign part or all of the technical support to a third party. Finally, "how activities are performed" include the support tools used in day-to-day activities, the processes managed and monitored by the organization to organize the work at TTC; and the projects launched by the group to implement change initiatives. In the following section we discuss how the literature has tracked emergent strategy and we present how we parsed emergent strategy by comparing

realized strategy with the concept of strategy. The activities were tracked using principally SPS packages and this was supplemented by looking at metrics, corporate emails and year-end reports.

The operationalization of realized strategy consisted of identifying patterns in time (i.e. enduring four or more periods) for Products/Services, Markets, Boundaries and how Operational Activities were performed.

4.2.2 Operationalizing Deliberate and Emergent Strategy at TTC-SO

We begin this section by describing how the literature has operationalized emergent strategy and then we describe our operationalization of emergent strategy. We discuss how we operationalized TTC's "concept of strategy"; and how deliberate strategy was distinguished from emergent strategy.

Emergent Strategy in the Literature

Mintzberg & McHugh (1985) operationalize strategy by studying patterns in the categories of films produced by the NFB in the absence of intentions (see Table 15). This is consistent with Mintzberg's definition of strategy as a pattern in action. However, it is unclear how the authors differentiate between deliberate and emergent patterns. Rather they begin their methods section with the stated assumption that the NFB is an adhocracy for which operational personnel and managers at various levels are involved in the establishment of precedents, that is, in shaping the strategies which are largely unintended. This suggests that they start with the premise that the NFB, given its structure, produces emergent strategy, which they subsequently set out to study. While we agree that strategies fall along the deliberate-emergent continuum, and that emergent

and deliberate are pure forms rarely encountered in real life, we have designed this study of emergent strategy to track intentions. This has been done by focusing on the stated intentions of senior managers, as discussed below.

Table 15: Operationalization of Emergent Strategy in the Literature

Author(s) and Research Site	Variables	Operationalization
Mintzberg & McHugh, 1985 National Film Board (NFB)	➢ Strategy	➢ Mix of different film types in a given time period, assessed by number of films made, duration in minutes, language, sponsored or not, black & white or color, 16 or 35 mm
	➢ Emergent strategies	➢ Patterns in strategy, i.e. mix of films, in the absence of intentions
Noda & Bower, 1996 Two baby Bell companies	➢ Strategic actions	➢ Investments, licensing agreements, mergers & acquisitions, partnerships, deals
	➢ Emergent strategies	➢ Pattern in strategic actions in the absence of intentions
Burgelman, 1994 Intel	➢ Strategic actions	➢ Introduction of successive generations of products (memory chips) in each of the businesses, allocation of resources, management beliefs, product/market alternatives
	➢ Emergent strategy	➢ Divergence between patterns in strategic actions and stated intentions from senior management
Pascale, 1984 Honda	➢ Strategic actions	➢ Product mix (large vs. small bikes), marketing campaign, distribution channels
	➢ Emergent strategy	➢ Divergence between patterns in strategic actions and stated intentions from senior management
Lowe & Jones, 2004 New-Zealand Fisheries	➢ Performance measures	➢ Quality of product, customer data, profitability, cost allocations
	➢ Emergent strategy	➢ Pattern in performance measures in the absence of prior intentions
Boyett & Currie, 2004 Irish Jamaican Telecom Start-up	➢ Management initiatives	➢ Implementation of hierarchical structure, level of supervision, long term investment focus, acquiring landline license
	➢ Emergent strategy	➢ Divergence between pattern in management initiatives and four stated objectives from senior management

As may be seen in Table 15, a second approach in the literature has been to operationalize emergent strategy by specifically looking at the divergence between the observed realized strategy and the stated intentions ***from senior management*** (Pascale, 1984; Burgelman, 1994; 1996; Boyett & Currie, 2004), or in some cases, in the absence of prior intentions from senior management (Lowe & Jones, 2004). This we maintain is more appropriate given our research setting and the fact that we had access to archival data describing the strategic intent of senior management and the strategic realizations of the group. While Mintzberg's defines emergent strategy as a pattern despite or in the absence of intentions, it remains unclear "how to determine intentions in a collective context" (Mintzberg & McHugh, 1985: 162). Accordingly, Boyett & Currie (2004) refine the definition of emergent strategy by looking at the divergence between four stated objectives of the company's home office managers and the strategic realizations of the Jamaican start-up local managers. Noda and Bower (1996) study emergent strategy by comparing the evolution of two telecom companies, with similar general intentions to enter the wireless business, which eventually lead to almost opposite stakes in the business; they operationalize emergent strategy comparing the realized pattern with initial intent or lack thereof.

Our study operationalizes the construct of emergent strategy in similar fashion: by comparing realized strategy (i.e. patterns in ***action***) with the concept of strategy, i.e. the representation of senior management's ***intentions***, anchored in the organization's past but oriented towards goals to be achieved in the future.

Operationalizing the Concept of Strategy

"The concept of strategy represents the more or less explicit articulation of the firm's theory about its past concrete achievement… It provides for the continuity in strategic behaviour and it induces further strategic initiative in line with it" (Burgelman, 1983b: 66). In order to operationalize the concept of strategy we propose to track strategic categories, which are the concepts used to articulate the firm's past concrete achievements. Strategic categories may include the organization's choices of products and markets as well as internal areas of focus of past success such as employee satisfaction levels and quality of product achieved (cf. Burgelman, 1983b). They represent what the firm cares about and as such induce further strategic behaviour.

Operationalizing Emergent and Deliberate Strategy

As we have discussed, "emergent strategies are patterns or consistencies realized despite, or in the absence of, intentions" (Mintzberg & Waters, 1985: 257). In order to recognize an emergent strategy one must be able first, to recognize a realized strategy, i.e. a pattern, or in our case a pattern in activities, and second, to confirm that the strategy was realized despite, or in the absence, of intentions. Intentions however are difficult to study and attribute especially since they may be tacit rather than explicitly stated and documented. "There may be no such thing as a purely deliberate strategy (intentions realized precisely) or a purely emergent one (the total absence of intention, despite pattern in action)" (Mintzberg & McHugh, 1985: 162). Rather one might look for emergent aspects of a realized strategy.

In order to identify emergent strategy we drew from Burgelman's model and parsed realized strategy into deliberate and emergent strategy by comparing realized strategy with the concept of strategy at a given point in time.

1) **Identifying realized strategy**: we operationalized strategy as a portfolio of activities (and related projects) and tracked this over time to identify patterns in activities related to products, markets, boundary of firm, and how operations were performed. A list of activities and projects was documented along with respective beginning and end dates. Patterns in activities and projects, when enduring more than four consecutive periods (i.e. step 4.2), constituted our realized strategy. This is consistent with Mintzberg's work at the NFB. However, realized strategy comprises both deliberate and emergent strategy. Thus, in order to study the formation of emergent strategy we needed a way to distinguish emergent strategy from the deliberate portion of realized strategy. This was done by comparing realized strategy with the concept of strategy.

2) **Identifying the concept of strategy*:*** given that we had access to archival documents, it was possible to establish the set of strategic categories which taken together comprised the organization's concept of strategy at any point in time (cf. Burgelman, 1983b). We built a list of categories and documented changes to them as new ones were introduced and old ones were deleted or modified.

3) **Inferring deliberate and emergent strategy:** The strategic categories were then compared with realized strategy. For projects which endured more than

We now proceed to discuss the operationalization of the concepts used to establish the role of autonomous strategic behaviour in fostering emergent strategy. These include: autonomous strategic behaviour, strategic context, structural context and strategic dissonance.

4.2.3 Operationalizing induced and autonomous strategic behaviour, structural context, strategic context, and strategic dissonance

Induced strategic behaviour is activity which, when undertaken, is motivated by and consistent with the concept of strategy prevailing at the time; conversely, autonomous strategic behaviour is activity which, when undertaken, is at odds with the prevailing concept of strategy (cf. Burgelman, 1983b). In our study we infer whether strategic behaviour is induced or autonomous by comparing descriptions of strategic activities at the moment the activities are initiated with the concept of strategy.

It is "through the manipulation of structural context that top management can influence the type of proposals that will be defined and given impetus" (Burgelman, 1983b: 64). Structural context is the set of formal administrative arrangements and mechanisms that management can manipulate to change the perceived interests of the strategic actors in the organization (Bower, 1970, Burgelman, 1983b). At TTC-SO we tracked structural context by looking at representations of the organization from formal organizational charts. As top management shapes structural context, new groups with new mandates can be created, mandates can be transferred from one group to another,

new leaders can be given responsibilities, more or fewer human resources can be allocated to one group or another, etc. In this sense organizational charts – and especially changes to them – reflect top management's efforts to induce some strategic activities, i.e. those which are consistent with the concept of strategy, rather than others.

"Strategic context determination reflects the efforts of middle managers to link autonomous strategic behaviours at the product/market level into the corporation's concept of strategy" (Burgelman, 1983b: 66). In order to track these efforts we used interview and SPS packages, noting how organizational actors involved with the project had described and communicated their initiatives, i.e. the strategic rationale used to defend autonomous behaviour, at different points in time to note whether and how strategic categories were "invoked" to link autonomous behaviour with the concept of strategy. Finally, strategic dissonance is the divergence between intent and action in the organization (cf. Burgelman & Grove, 1996). Gaps between concept of strategy and activities performed by middle and lower level organizational actors were inferred as evidence of strategic dissonance. We now present our findings on the concept of strategy at TTC-SO.

CHAPTER V: FINDINGS ON EVOLUTION OF CONCEPT OF STRATEGY AT TTC-SO

In this chapter we put forward the result of our analysis for the concept of strategy at TTC-SO.

Table 16 lists all the categories which were revealed in our study along with beginning and end dates.

Table 16: Strategic Categories at TTC-SO

Strategic Category	Activity Description	Related to	Timeline
Broad Portfolio	Supporting many technologies to cover all the network elements of the customers such as access, core networks, enterprise, switching, optical and wireless equipment.	Products	Baseline-2000(2H[26])
Product Quality	Supporting reliable networks by implementing the five 9s standard for carrier products ensuring 99.999% of component uptime	Products	Baseline-On-going
Selling Services	Supporting services, including hosting customer networks and performing network management for customers.	Products	Baseline-On-going
Global Markets	Supporting customers in all regions of the globe.	Markets	Baseline-On-going
Traditional *and* New Operators	Supporting ILECs (Incumbent Local Exchange Carriers) as well as the new CLECs (Competitive Local Exchange Carriers) entering the market as a result from deregulation with the Telecommunication Act of 1996.	Markets	Baseline-On-going
Internal *and* External Technology	Supporting technology developed in-house as well as technology from partnerships with other vendors.	Boundaries of the firm	Baseline-On-going
Cost Containment	Continuing to deliver the same level of support for existing and new customers, while reducing new spending.	How activities are performed	Baseline-1999(1H[27])
Customer Satisfaction	Tracking and measuring customer satisfaction via surveys and ensuring high quality interaction and processes with customers.	How activities are performed	Baseline-On-going
Employee	Tracking and measuring employee satisfaction	How	Baseline-On-going

[26] 2H denotes second half of the year. In this case we refer to the last six months of the year 2000.

[27] 1H denotes first half of the year. In this case we refer to the first six months of the year 1999.

Satisfaction	via surveys and ensuring high quality work environment and processes with employees.	activities are performed	
Process Measurement	Capturing, describing and communicating the results of the business via Measurement of processes across all Lines of Business (LOBs), managed via complex sets of metrics. These include case arrivals, outage time, case closure time, and work on hand for various levels of case severities.	How activities are performed	Baseline-2004(2H)
Product Supportability	Creating scripts and tools to ease the difficulty of supporting products	Products	2001(1H)-2003(1H)
Design for Supportability	Developing new products that have supportability features built into their design to ease difficulty of supporting them	Products	2003(2H)-On-going
Original Equipment Manufacturer	Supporting products developed by other companies and sold under TTC's brand	Boundaries	2004(1H)-On-going
Off-Shoring	Supporting products by relocating engineers from high-cost regions to low-cost regions	Boundaries	2006(1H)-On-going
Cost Recovery	Develop programs and tools which enabled the support group to track its time accurately and achieve 100% recovery	How activities are performed	1999(2H)-2001(1H)
Workforce Reductions	Supporting existing and new products with reduced number of people	How activities are performed	2001(2H)-2002(2H)
Service Profitability	Deploying support resources on projects and activities which are profitable	How activities are performed	2003(1H)-2006(1H)
Service P&L	Measuring and reporting cost of supporting products against the service revenues for support	How activities are performed	2006(2H)-On-going
Service Standardization	Offering common levels of support across the product lines	How activities are performed	1998(1H)-On-going
Process and Tools Standardization	Supporting all product lines using common processes and tools	How activities are performed	2001(1H)-On-going
Six Sigma	Applying Six Sigma methodology in support processes, a data-driven approach for eliminating defects	How activities are performed	2005(1H)-On-going
Divesting Products	Supporting a reduced breath of products to focus on core parts of the business	Products	2001(2H)-2005(1H)
Focused Investments	Investing in selective areas of the business to target potential future products providing growth	Products	2005(2H)-On-going
Mergers and Acquisitions	Supporting products as a result of mergers and acquisitions activities	Products	1998(1H)-2000(2H)
Security and Crisis Management	Providing security and crisis management services	Markets	2004(1H)-On-going

True 2-tier Support Model	Supporting products using a two tier model which includes 1st tier[28] support functions such as triage, problem identification and basic troubleshooting and 2nd tier functions such as advanced troubleshooting, problem resolution, patch development, verification and deployment	How activities are performed	2001(1H)-On-going
48 Hour Case Closure	Resolve all cases within 48 hours of initial customer call	How activities are performed	2005(1H)-On-going

First we discuss the "baseline" strategic categories for TTC-SO which are those present at the onset of our study period in 1997 (Section 5.1) and; second we discuss the evolution of the concept of strategy (Section 5.2). While some of the categories remained the same during the entire period of study, others were modified, emphasized or de-emphasized, or abandoned thus expressing changes in the concept of TTC-SO's strategy.

5.1 Initial Categories - 1997

In 1997, revenues were growing at an accelerated pace as the dot-com bubble was building up. However at TTC-SO, spending was growing at an even faster pace. This prompted the need for the organization to find ways towards containing costs. The accelerated sales across all product lines were reinforcing the push towards a broad portfolio as new emerging markets were fostering the need to think in global terms for support.

5.1.1 Strategic Categories related to Products (including Services)

In 1997, TTC-SO increasingly had to support a "Broad Portfolio" of telecommunication products and services. The history of the company had seen the

[28] 1st tier support function is more basic, less complex and requires less technical abilities than 2nd tier support

organization focus its R&D on building telephone switching equipment. However the major technology revolution created by the democratization of the internet in the early 1990s prompted the company to rethink itself as a communication enabler from a telephone network provider. The shift from telephone infrastructure to internet infrastructure was putting the world-wide web at the core of the vision. This led to developing both wire-line and wireless networks, and using high capacity optical technology to deliver increasingly rich content. "Five years ago, the majority of our revenues and earnings came from selling switching systems to telephone operating companies in North America. Today, we are a much more diversified company and much less dependent on a single market or line of business. We have a broad portfolio of leading and profitable products designed to address the needs of a variety of customer segments".[29]

The second main thrust on the product front was towards "Product Quality". This included building and supporting reliable networks by implementing the "five 9's" standard for carrier products ensuring 99.999% of component uptime. It also meant reducing errors and defects all along the engineering value chain. "We are targeting a 50% reduction in end to end defects, therefore, our ability to acquire a clean order and engineer it with the utmost quality will be fundamental to the achievement of our operational cost objectives"[30] Given its past as a telephone equipment provider, TTC entered all product segments with a clear emphasis on reliability. Quality was an important product attribute which differentiated TTC from smaller competitors.

[29] CEO, Q2 1997: Letter to employees
[30] Senior executive, 2007 Q4 letter to employees

The third product-related strategic category was the push towards "Selling Services". Services included hosting customer networks, a way to integrate vertically and enter the space of some of TTC's carrier customers. "The implementation of the Network Management Center (NMC) continued its progress in Q4. This valued added service which was essential in closing the an important customer contract earlier this year will serve as the cornerstone of providing enhanced service support to the new breed of customers we are targeting"[31] For the support organization this meant looking for ways to generate additional revenues by providing support for hosted customer networks.

5.1.2 Strategic Categories related to Markets

The first market strategic category was the result of new emerging markets prompting TTC to target "Global Markets". This meant for TTC-SO the implementation of global support policies with the requirement to establish teams in new locations in order to serve these new customers. TTC-SO had to develop an understanding of the local context and had to develop some level of language skills to deal with local issues. "It will be a significant challenge to meet the additional skilled staffing requirements for Canada and for international contracts commitments in Brazil, Korea, Malaysia, Hong Kong and Uzbekistan."[32]

Second, in 1997, TTC-SO had new customers to serve. It focused on targeting both "Traditional ***and*** New Operators". In the United States, the Telecommunication Act, signed into law on Feb 8, 1996, deregulated the market and prompted the entry of new competitors in the telephone, cable and internet space. The objective of this new law was

[31] idem
[32] Senior executive, 2007 Q4 letter to employees

to open up the markets and create competitive dynamics which would benefit the public by lowering the price of communications. "The act abolishes many of the cross-market barriers that prohibited dominant players from one communications industry, such as telephone, from providing services in other industry sectors such as cable. New mergers and acquisitions, consolidations and integration of services previously barred under FCC rules, antitrust provisions of federal law, and the "Modified Final Judgment," the ruling governing 1984 "break-up" of the AT and T telephone monopoly, will be allowed for the first time, illustrating the belief by Congress that competition should replace other regulatory schemes as we enter a new century."[33] TTC therefore was intent on continuing to build its leadership position with ILECs (Incumbent Local Exchange Carriers) as well as target the new CLECs (Competitive Local Exchange Carriers) entering the market. This also led to the practice of equipment providers financing these new players and bearing a disproportionate part of the risk.

5.1.3 Strategic Categories related to the Boundary of the Firm

An important boundary strategic category came from the acceptance that while TTC had ambitions to provide end-to-end network solutions, it had to do so with both "Internal ***and*** External Technology**"**. "We will develop and sell new, innovative, competitive telecommunication services applications using both in-house designed hardware and software and externally sourced hardware and software"[34] In 1997, TTC had several partnerships with external companies. One such partnership with a

[33] Obtained from museum TV, at http://www.museum.tv/archives/etv/U/htmlU/uspolicyt/uspolicyt.htm, accessed on Nov 8, 2008
[34] Objective Alignment, SPS package, 1997

semiconductor company, lead to the development of a fast modem.[35] Another venture was underway for the development of integrated circuits three to five times faster than existing silicon microchips.[36] This strategy extended TTC-SO's boundaries beyond the internal company groups as external support groups had to be coordinated in order to provide seamless customer support.

5.1.4 Strategic Categories related to Choice of Activities and How they are Performed

The first strategic category related to the choice of activities and how they are performed that our study uncovered was the focus on "Cost Containment**"**. Indeed, in 1997, while revenues were growing fast, costs were doing so at an even greater pace. "There are many positives to report this year, but there's a major negative that needs attention: our sales, general, and administrative costs are growing faster than our revenues. Simply stated, we've got a spending problem. It can't be allowed to continue. Revenues should grow at least twice as fast as expenses. Our revenues are growing at 20 percent, which is a remarkable performance for a company our size. SG&A should be growing at around 10 percent. But our SG&A is growing at 27 percent.[37]"

The second strategic category we identified was "Customer Satisfaction (CSAT)". While such a strategic category is likely to be found in many companies, it resonates specifically in our study given that we were looking at a customer support organization. TTC-SO engineers paid special attention to activities which could promote or undermine "CSAT". Focusing on "CSAT" meant tracking and measuring customer satisfaction via

[35] 1997, year-end report
[36] idem
[37] Executive email, 1997

surveys and ensuring high quality interaction and processes[38]. "CSAT" was a primary metric to the organization. Indeed, product quality, technical expertise, regional support, emergency recovery, all could potentially impact "CSAT". "Increasing our customer loyalty scores also remains a priority and a major challenge."[39]

The third strategic category we identified is "Employee Satisfaction (ESAT)". In 1997, the telecommunication industry was experiencing unprecedented growth. Indeed, employee levels at TTC nearly tripled from 1997 to 1999 and rival companies were undergoing similar growth patterns, which lead to tremendous pressure on the labor market for engineers and technical people. "Compounding that reality is the fact that the skills of our workforce are in short supply and high demand, and attractive opportunities abound globally. Some employees will leave the company to pursue those opportunities. That, too, is part of today's business reality."[40] In such a tight labor market, TTC-SO was looking to nurture its human resources and the company was intent on measuring and achieving high "ESAT" scores. All groups within TTC-SO were deploying significant efforts to retain the skills inside the organizations as illustrated from the CEO's comment in the employee quarterly letter: "I am committed to working with you to continue to build an environment that makes employees want to stay here and potential employees want to join the corporation.[41] While the company recognized that compensation played an important role in retaining skilled people, the company was establishing a culture of empowerment in which the employees could pursue high self-actualization levels in the context of their daily work tasks. "We need to continue to organize work so that smaller

[38] Metrics package, 1997
[39] CEO, Q3 1997: Letter to employees
[40] CEO, 2007, letter to employees
[41] idem

teams "own" the whole of something and understand clearly how their piece contributes to and links with the larger picture. We also need to continue to evolve how our corporate staff operates, to foster collaboration and to allow individuals to contribute more directly to our business objectives. But there's more to empowerment than structural changes or the rethinking of roles. Empowered employees have a clear mandate and an understanding of the boundaries within which they are empowered to act. They have opportunities to develop the knowledge and skills they need to perform a task.[42]"

The fourth and final strategic category we identified related to activities is "Process Measurement". TTC-SO was focused on capturing, describing and communicating the results of the business via "Process Measurement" across all Lines of Business (LOBs). "We will manage our business through documented processes which are developed in a multi-disciplined environment (i.e. across silos)"[43]. Processes were closely managed via complex sets of metrics. These included case arrivals, outage time, case closure time, and work on hand for various levels of case severities.

In the following section we look at the evolution of the list of strategic categories which taken together express a change in the concept of strategy at TTC-SO. Furthermore, we grouped some of these changes as they related to one another and in an effort to express the type of change that occurred as a result.

[42] idem
[43] Objective Alignment, SPS package, 1997

5.2 Strategic Categories: Evolution Map 1997-2006

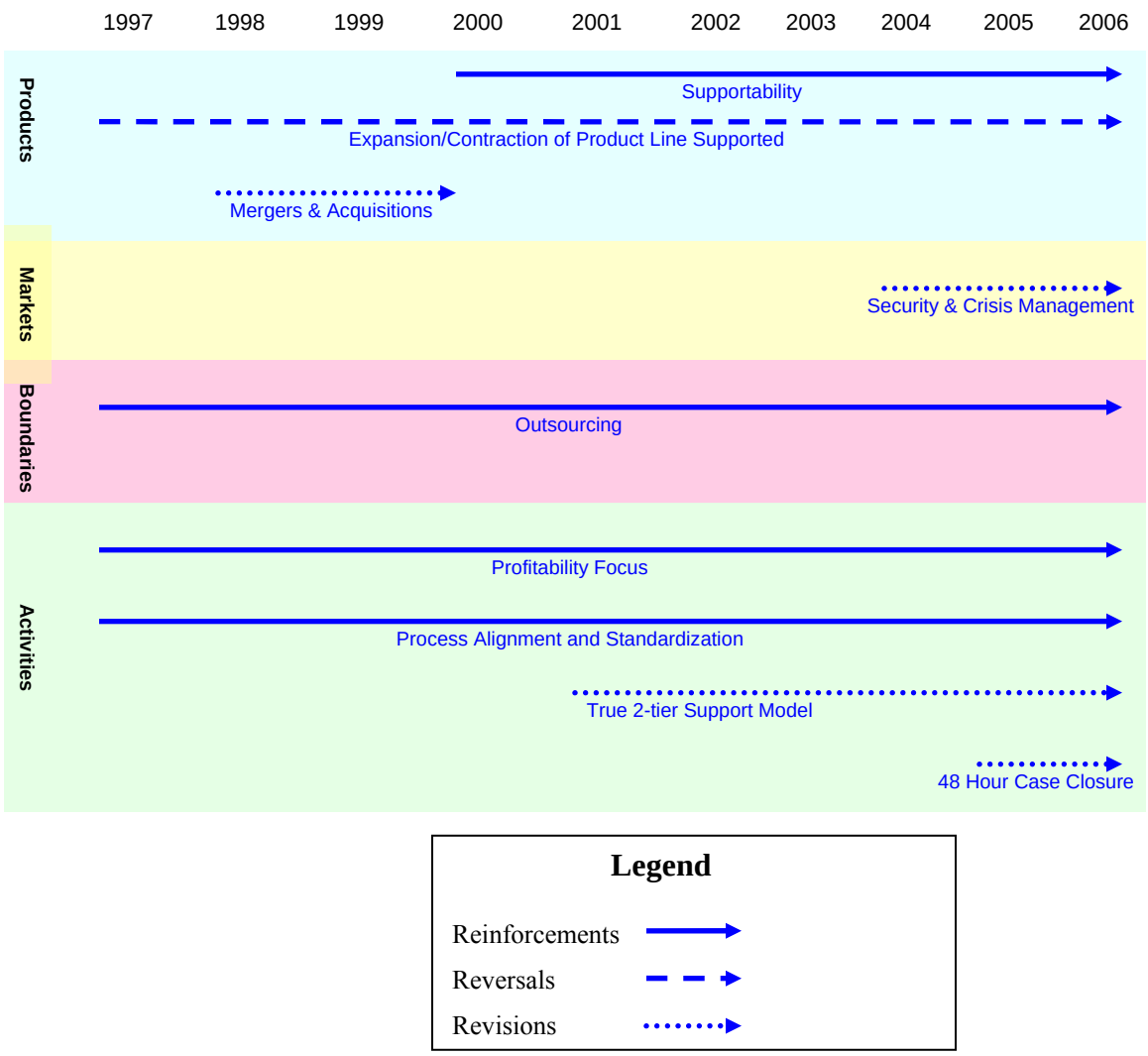
TTC-SO had several important shifts in its strategic categories. Figure 11 shows each of the changes we identified. The diagram indicates when the changes happened over the 10 year horizon of the study. In this section we present the changes to the concept of strategy by grouping them in three classes.

"Reinforcements" (in solid line in Figure 11), the first class of change, pertains to successive changes in concepts which move the organization's strategy in a constant direction; "Reversals" (in dashed line in Figure 11) correspond to alternating changes representing flip-flops by the organization between two mutually exclusive strategies where advantages sought with one strategy are opposite to those of its reversal; and "Revisions" (in dotted line in Figure 11). These correspond to singular one-time changes in a strategic category, isolated somewhat from other changes. The labels in Figure 11 for reinforcements and reversals represent aggregates of strategic categories (Table 17), while revisions pertain to introducing or dropping a single category.

Table 17: Shifts in Strategic Categories at TTC-SO

Shifts in Strategic Categories	Type of Shift	Categories Involved in Shift
Supportability	Reinforcement	from Product Supportability, 2001(1H)-2003(1H) to Design for Supportability, 2003(2H)-On-going
Outsourcing	Reinforcement	Internal *and* External Technology, Baseline-On-going; Original Equipment Manufacturer, 2004(1H)-On-going; Off-Shoring, 2006(1H)-On-going
Profitability Focus	Reinforcement	from Cost Containment, Baseline-1999(1H) to Cost Recovery, 1999(2H)-2001(1H) to Workforce Reduction 2001(2H)-2002(2H) to Service Profitability, 2003(1H)-2006(1H) to Service P&L, 2006(2H)-On-going
Process Alignment and Standardization	Reinforcement	from Process Measurement, Baseline-2004(2H) to Six Sigma, 2005(1H)-On-going;Service Standardization 1998(1H)-On-going; Process and Tools Standardization 2001(1H)-On-going
Expansion/Contraction of Product Lines	Reversal	from Broad Portfolio Mix, Baseline-2000(2H) to Divesting Products, 2001(2H)-2005(1H) to Focused Investments, 2005(2H)-On-going
Mergers and Acquisitions	Revision	Mergers and Acquisitions, 1998(1H)-2000(2H)
Security and Crisis Management	Revision	Security and Crisis Management, 2004(1H)-On-going
True 2-Tier Support Model	Revision	True 2-tier Support Model, 2001(1H)-On-going
48 Hour Case Closure	Revision	48 Hour Case Closure, 2005(1H)-On-going

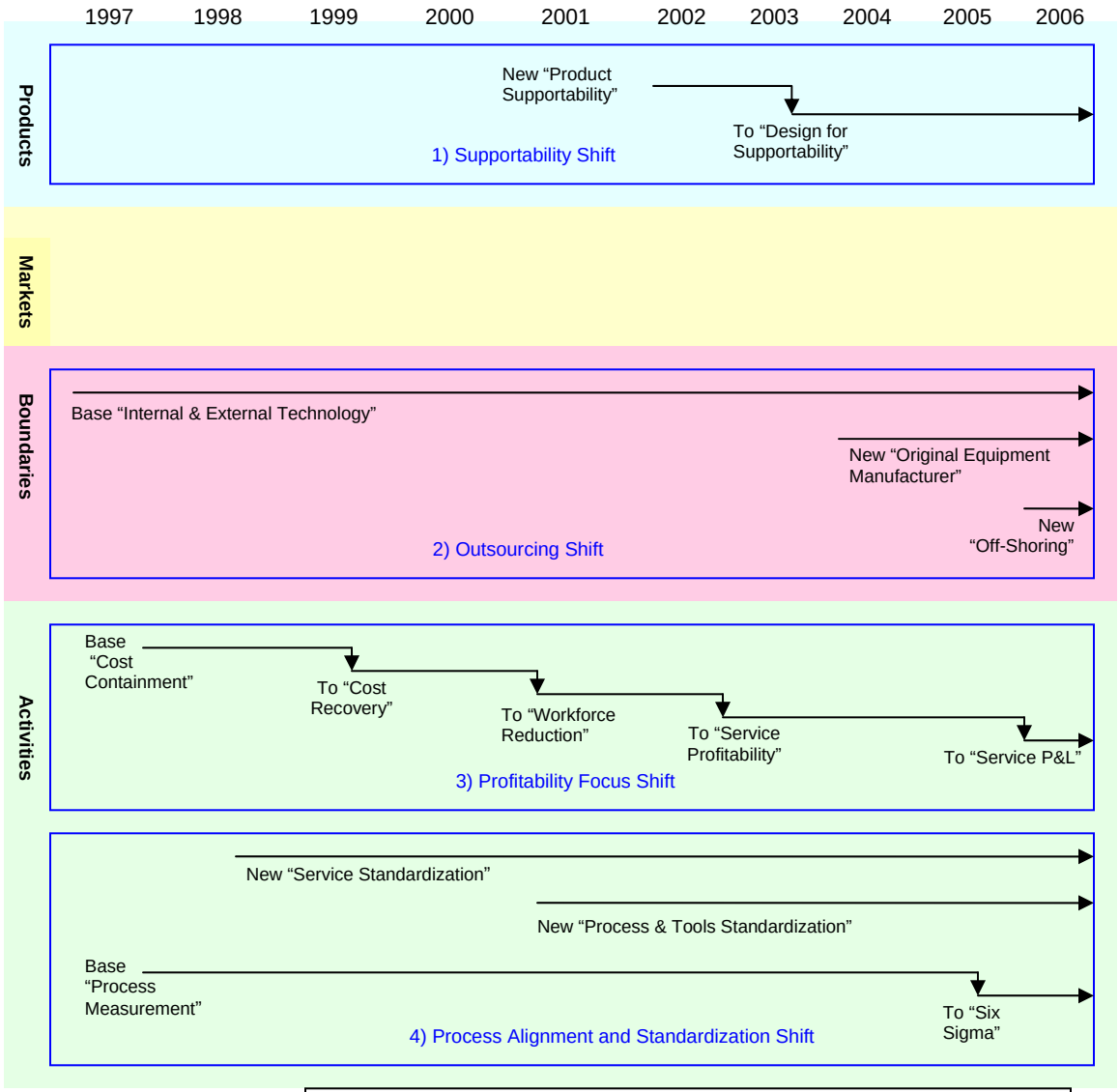
Figure 11: Strategic Categories Evolution Map 1997-2006



In the following three sections we discuss the three classes of changes in the concept of strategy in more detail: Reinforcements (Section 5.2.1), Reversals (Section 5.2.2), and Revisions (Section 5.2.3).

5.2.1 Strategic Categories: Reinforcements

Figure 12: Reinforcements within the Concept of Strategy



In this section we discuss reinforcements to the concept of strategy. Our study uncovered four reinforcements: 1) the "Supportability" reinforcement, 2) "Outsourcing" reinforcement, 3) the "Profitability" reinforcement and, 4) the "Process Alignment and Standardization" reinforcement (Figure 12)

1. **Reinforcement towards Supportability (Product Supportability, Design for Supportability)**

An important shift at TTC-SO was the move towards increased supportability. "Supportability is the relative degree to which a product and its supporting tools and/or processes allow field problems to be quickly characterized and resolved while minimizing the overall impact of engaging technical support on the customer's network and operations."[44] The supportability concept was developed as engineers were looking at issues around facilitating the ease of supporting one of its products in the portfolio. While the initial team was limited in its focus to a single set of products, the team's mandate widened to include additional products as product supportability became part of the organization's strategic objectives. Indeed, in 2001, "Product Supportability" featured as one of four strategic objectives in the North America SPS session.[45] During that session, supportability was also presented as one of the attributes to the definition of carrier grade support. "Product Supportability", a category focused on supportability of existing products, was later extended (2003) to "Design for Supportability (DFS)"[46], a new category concerned with designing future products with supportability features. As a result of this change, the concept of strategy for new products included supportability features which would enable standardized ways of delivering support for TTC-SO.

[44] Supportability Manager, 2001
[45] SPS package, 2001
[46] SPS package, 2003

2. Reinforcement towards Outsourcing (Internal *and* External Technology, Original Equipment Manufacturer, Off Shoring)

The second reinforcement which we identified was the move towards outsourcing. As early as 1997, TTC had identified the requirement to grow a broad portfolio line by using both "Internal ***and*** External Technology**"**. This meant that TTC-SO would interact with customer support groups outside of the firm's boundaries. After the bursting of the technology bubble, some of the non-core technologies were shifted from internal to external. This trend prompted the increase in the use of "Original Equipment Manufacturing OEM" partnerships. Under OEM deals, another company would develop components which would be sold under TTC's brand. In other cases TTC would divest products in the portfolio in order to focus exclusively on core products, while continuing to include sold components into network solutions. This meant that TTC-SO had to support third party OEM technology which would sometimes prove difficult. Indeed, supporting third party technology required a level of trust in sharing technical documents. One such product had TTC support a network product via an OEM deal while it also had an internal R&D project for a similar product. "We created a team that could take the calls. The problem was that we did not have the technical documentation to support the box. We finally got a box for our labs but they did not want to give us full technical specs. They were a little hesitant because we had a rival product internally and they were afraid we would reverse engineer their box. They did not trust us so it made it very difficult to support this product."[47]

In the later years, the trend towards externalization had taken the shape of "Off-Shoring" support functions. New teams were set-up in emerging countries at a fraction of

[47] Support manager

the cost of having them in North America. "I can have a group of several engineers in Romania for the price of one here. And these guys are going to be very eager to complete the work. Once you get passed the training and culture barrier, this is very efficient for us."[48]

3. Reinforcement towards Process Alignment and Standardization (Process Measurement, Service Standardization, Process and Tools Standardization, Six Sigma)

The shift from a product-based organization structure to a function-based one was a key change in structural context in 2001. This structural change reflected a continuous shift towards process alignment and standardization across the product lines, throughout the period of study. From "Service Standardization" to "Processes and Tools Standardization", the organization pushed for harmonization of what was to be offered to the customer and how the work should be performed across geographical and technological boundaries. Over time, the shift became progressively more pronounced. Indeed, this trend started with "alignment of processes[49]" in registering for ISO accreditation in 1997. It continued further in the same direction as the organization adopted the BMA (Baldridge Management Criteria) as a business model. "The Baldridge Criteria and assessment processes help organizations identify, understand, and manage the factors that determine their success."[50] This system formalized the requirement to document all processes and ensure alignment between the product groups. By 2001, the leadership had made the various business owners responsible for each of the common

[48] Support manager
[49] SPS package, 1997
[50] Obtained from website at Baldridge corporate website, http://www.baldridge.com/, accessed Nov 14, 2008

functions of the organization, as they were mandated to provide global alignment. This structural change further facilitated the change towards standard processes.

The standardization continued in the later part of our study with the introduction of "Six Sigma" methodology in 2005-2006. "Six sigma is a disciplined data-driven approach and methodology for eliminating defects, from manufacturing to transactional and product to service. Six sigma describes quantitatively how a process is performing[51]" This increased the emphasis on functions rather than products by creating experts in the organizations (so-called "black belts" in various topics) responsible for defining and measuring processes in very precise terms using statistical methods to assess process deviation.

4. Reinforcement towards a Profitability Focus (Cost Containment, Cost Recovery, Workforce Reduction, Service Profitability, Service P&L)

The fourth important reinforcement was to push the organization towards an increased profitability focus. This evolution manifested itself by successive changes. The first phase was to implement a cost reduction target for the customer organization of 10% of its budget for all groups. This was to be driven by collaboration, leveraging of assets and synergies. "We need to balance the need of customers for Faster and Better against the cost."[52] The second phase came in 1999 with the push towards "Cost Recovery". This implied a push towards programs and tools which enabled the support group to track its time accurately. Targets to achieve 100% recovery were set[53]. Together with cost recovery came "Workforce Reductions" as TTC was struggling to keep afloat as general

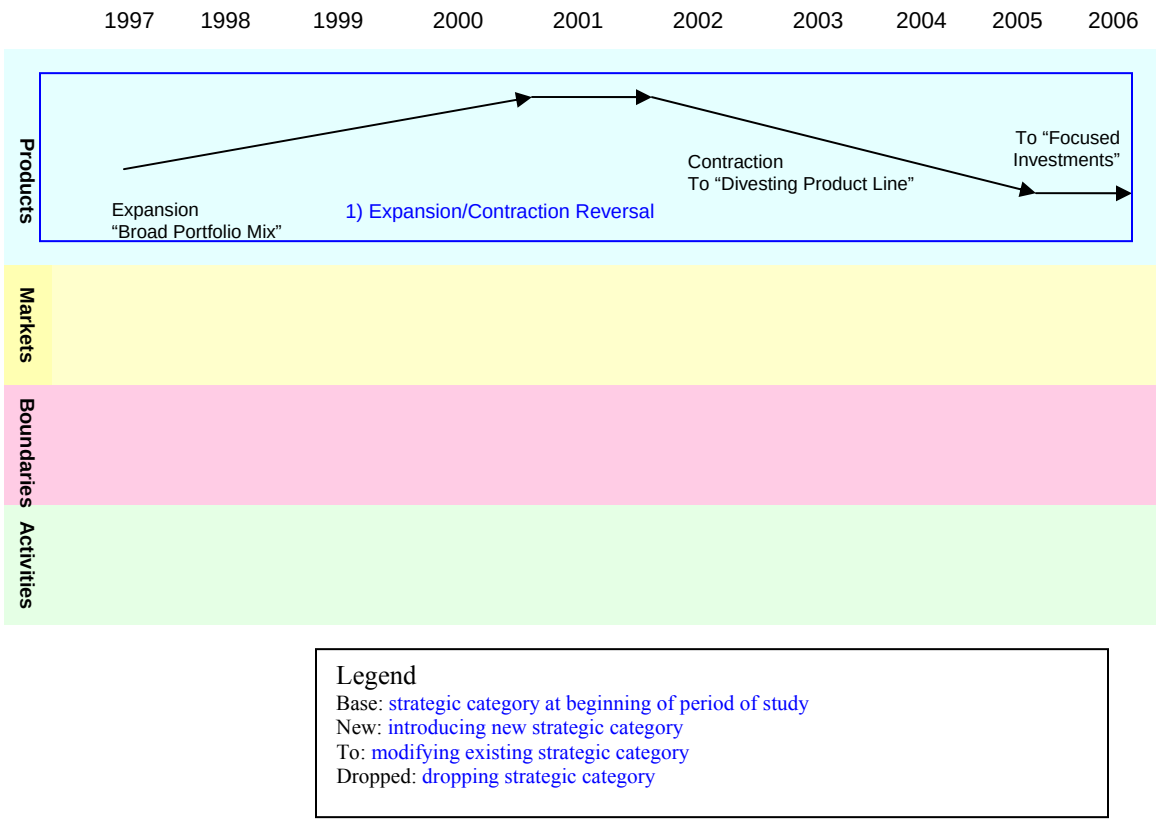
[51] Obtained at Six sigma corporate website, http://www.isixsigma.com/sixsigma/six_sigma.asp, accessed Nov 14, 2008
[52] Letter to employees, senior executive, 1998
[53] SPS, 1999

market conditions in 2001-2002 made workforce reduction inevitable. The final phase of this continuous shift was the push towards "Service Profitability". Given that the support organization was a cost center throughout our study period, this ultimate change was sometimes difficult to implement as the group did not control all the variables. However, it did promote the accelerated deployment of systems and tools which could achieve time tracking (to bill appropriate amount of hours), and customer entitlement (to ensure customers have paid for their service). A "Service P&L" was created in 2006 which finalized the shift towards cost accountability. We now proceed to look at reversals.

5.2.2 Strategic Categories: Reversals

Our study uncovered a reversal in the concept of strategy which was related to products and services (Figure 13). The reversal occurred over several years, between 1998 and 2006. This shift concerned the expansion and contraction of the product line. During the period of study we did not uncover reversals related to markets, boundaries or activities.

Figure 13: Reversals within the Concept of Strategy



1. **Expansion/Contraction Reversal (Broad Portfolio Mix, Divesting Product Line, Focused Investments)**

Our study uncovered an important reversal. During this reversal TTC-SO had to either, support an increased product line as a result of a flurry of acquisitions or, support a reduced product portfolio as a result of significant divesting activities. As we have discussed in the trends analysis, TTC undertook a series of significant acquisitions between 1998 and 2000. This meant TTC-SO had to absorb, integrate and sometimes streamline existing product support teams from the companies it acquired. It also meant the tools used to dispense the support by these new support teams had to be aligned with

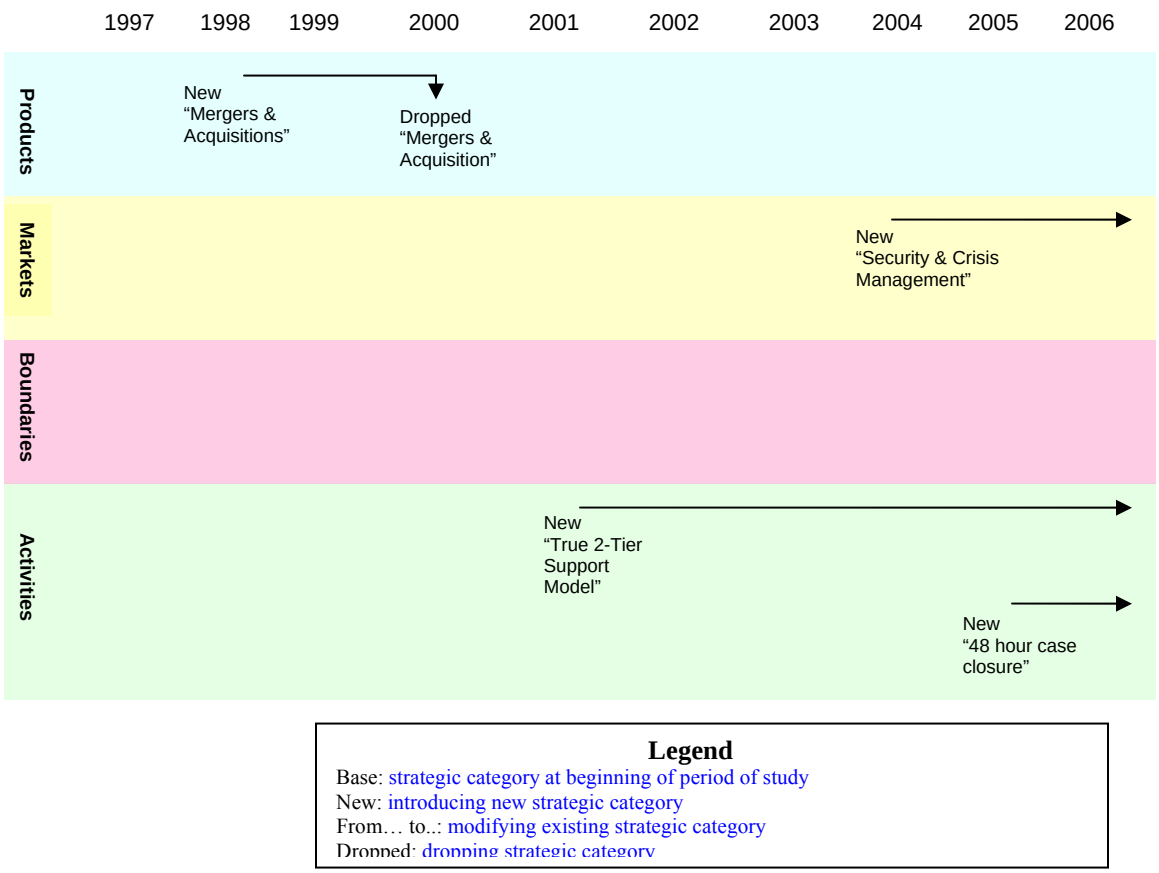
existing TTC tools. Meanwhile in 2002, after a year of relative stability in the product portfolio, large portions of the business were divested in order to manage the new market dynamics under the contracted environment after the advent of the internet bubble. "Divesting Product Line**"** implied TTC-SO had to transition some of the work to new partners as the technology was no longer supported internally. Finally in 2006, TTC was intent on making strategic investment. This meant that TTC-SO undertook "Focused Investments**"**, a shift of some of its resources from dropped products to strategic products, which lead to increased mobility of its engineers to align with corporate choices about products.

Next we look at revisions in the concept of strategy which represent singular changes in strategic categories.

5.2.3 Strategic Categories: Revisions

Our study has uncovered four revisions within the concept of strategy: 1) A "Merger & Acquisitions" revision related to products; 2) the "Security & Crisis Management" revision which was related to markets and; 3) the "48 hour Case Closure" revision and 4) the "True 2nd Tier Support Model" revision which related to activities and how they are performed.

Figure 14: Revisions within the Concept of Strategy



1. Mergers and Acquisitions Revision

As we have discussed in the trends analysis, TTC was very active in the "Mergers and Acquisitions" phase as it acquired technology companies in all of its Lines of business. For TTC-SO it meant having to integrate new organizational units from acquired companies. It also meant in some cases, having to streamline duplicate processes and tools in order to offer an identical customer experience across the business units. This strategic category lasted until the end of 2000 when it was dropped, likely due to the slowdown caused by the dot-com bubble.

2. Security/Crisis Management Revision

"Security and Crisis Management**"** came in response to major events in the environment. Given the pervasiveness of telecommunication in every day life and in the work place, the ability to recover from catastrophic events such as 9/11 or the power outage of 2003 became a source of competitive advantage for TTC. For the support organization, this strategic category prompted the development of Emergency Recovery Centers of Excellence (CoE). Security features on network products and services also became discussed as a potential avenue for growth.

3. 48 hour Case Closure Revision

In 2005, a major shift in case management occurred. "Our President went to talk to our customers and he told them: what do you want from a support perspective? They said: we want you to fix our issues quickly. That is the priority. So he came back and he said: now cases have to be solved in 48 hours. That is a drastic change: going from 30 days for majors and 180 days for minors to 48 hours."[54] The "48 Hour Case Closure**"** implied a redefinition of priorities and a new set of metrics to measure an engineer's or a product group's performance. For TTC-SO it also meant that supportability initiatives were given additional importance as programs aimed at facilitating the ease of supporting and preventing problems would help meet the "48 Hour Case Closure**"** objectives. The concept of strategy thus changed at TTC-SO from meeting telecommunication industry standards for case management to meeting customer expectations for fast resolutions of problems.

[54] Support Manager

4. True 2-Tier Support Model Revision

During our period of study TTC has been caught between the desire to build deep technical expertise and the push to develop regional expertise. On one hand, technical support implies that engineers develop advanced skills in order to better understand the technology problems. This is best achieved by co-locating the support groups with the design groups to facilitate knowledge transfer and to promote a culture of technical excellence. "We felt that support needed to be close to design in order to have stronger, more technical people.[55]" On the other hand, technical support requires a familiarity with the customer's context. In addition to understand regional cultural differences, the diversity of language requirement posed a real challenge for support teams. "We were in several different countries, so to me having different language backgrounds was good. Having someone that could speak Chinese was helpful when the customer was calling from China. We had Romanians; we had people who could speak Punjabi because we had a big penetration in India. So you hired people who had that background."[56]

In 1999, the Front Line Support Organizations which were previously responsible to regional vice-presidents were dismantled in order to create a single centralized front-line organization with regional offices. At the same time Global Technical Support was moved from the regions and co-located with design to provide a "True 2-Tier Support Model**"** where 2nd line support is able to isolate problems and build patches. "Our VP wanted the 2nd line support to become more technical in order to do some of the functions previously done by design. Co-location meant some of the expertise could be transferred

[55] Support director
[56] Support manager

between 2nd line and design."[57] In 2000-2001, a regional 2nd tier support program was launched. This was a program designed to work on customer issues around the clock as engineers transferred technical issues between regional teams. It resulted in a decentralization of 2nd tier support functions as it built technical expertise in regions, away from the design group. Regional teams were built in Europe, Australia and in North America (East and West coast). Training was delivered in several core networks products to build the required expertise level. In 2003, some of the Australian and European Regional Teams were removed as "we felt that they could not develop a proper level of expertise away from the design groups in North America". This move once again promoted a centralized 2nd tier support co-located with design teams.

Next, we proceed to present the results from tracking autonomous strategic behaviour at TTC-SO.

[57] Support director

CHAPTER VI: FINDINGS ON AUTONOMOUS STRATEGIC BEHAVIOUR AT TTC-SO

In this chapter we discuss the results from tracking strategic behaviour at TTC-SO. First we present a two by two matrix which exhibits the four strategy making outcomes involving induced and autonomous strategic behaviour (Section 6.1). Second we present a high level overview of the autonomous strategic behaviour which led to emergent strategy (Section 6.2) and third we discuss projects which led to ephemeral autonomous strategic behaviour (Section 6.3).

6.1 STRATEGY MAKING OUTCOMES AT TTC-SO

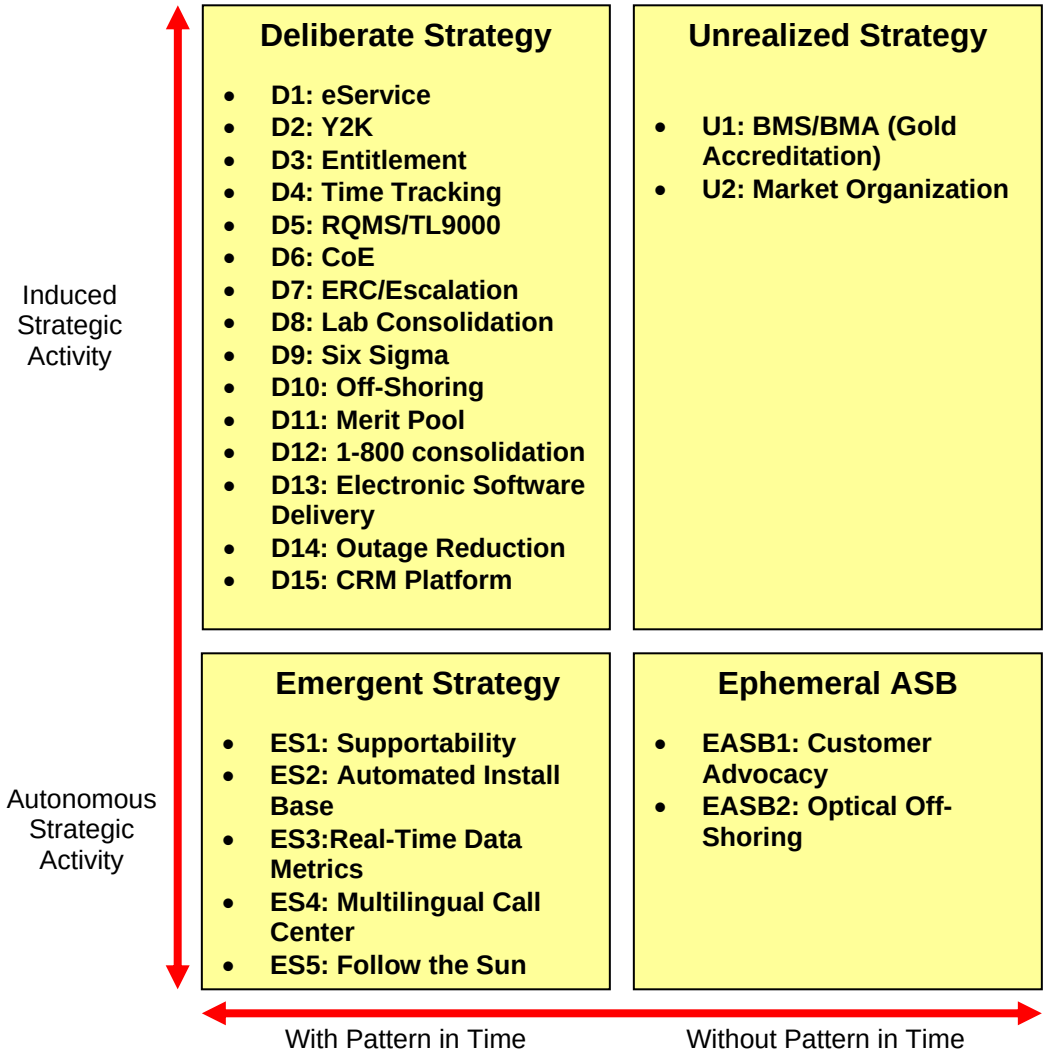
In this section we present the four strategy making outcomes which we have derived from our analysis: deliberate strategy, unrealized strategy, emergent strategy and ephemeral autonomous strategic behaviour (Ephemeral ASB). The horizontal dimension in Figure 15, features induced vs. autonomous strategic behaviour, while the vertical dimension differentiates between behaviour with patterns in time (i.e. deliberate and emergent strategy); and behaviour without patterns in time (i.e. unrealized strategy and ephemeral ASB). Indeed, unrealized strategy represents plans which did not come to fruition while ephemeral ASB represents strategic behaviour which is dissonant with the prevailing concept of strategy when it is initiated and which does not endure and fades eventually.

In the upper left box of Figure 15, we have listed the deliberate strategy at TTC-SO. Deliberate strategy is formed as part of the induced strategic behaviour displayed by organizational actors. In the previous chapter we have presented the concept of strategy at TTC-SO at the beginning of our study in 1997 as well as the reinforcements, reversals and revisions which occurred over the period of study (see Appendix II for a table of all strategic categories and all time periods). The concept of strategy represents the collective intent of the organization as it describes its beliefs about strategic choices that should be made by organizational actors. Induced behaviour with patterns in time thus becomes deliberate strategy. Our study uncovered 15 projects which contributed to TTC-SO's deliberate strategy. To give just one example, one project which led to deliberate strategy at TTC-SO involved the consolidation of laboratories (labs) (D8). The Lab Consolidation project was implemented as part of TTC's efforts to curb increasing costs. As TTC grew via acquisitions of products in the years prior to the internet bubble, it also acquired a series of labs which had equipment for support purposes. The Lab Consolidation aimed to reduce the number of labs and to increase the remaining one's product coverage. On one hand, this meant tracking and relocating existing equipment, including some of TTC's competitor's products to provide a wide interoperability testing environment. On the other hand it meant providing connectivity to remote users who needed the equipment to perform technical support. In some cases it also meant sharing facilities with design teams.[58] We categorized this project as "induced" because it was clearly consistent with the strategic categories when it was launched, such as broad portfolio, internal and external technology, service standardization and workforce reduction. For example, this initiative enabled TTC-SO to deliver some savings via

[58] Support Project Manager, interview

workforce reductions of personnel from labs that were consolidated. It was consonant with achieving two distinct objectives of standardizing service across product lines from lab operations while maintaining a broad portfolio of products developed both internally and externally which could be supported from a centralized lab location. Because our focus is on emergent, not deliberate, strategy we do not describe the remaining projects in D1-D15 here but do so briefly, rather, in an appendix (see Appendix I).

Figure 15: Projects and their outcomes at TTC-SO



Conversely, induced behaviour in the form of plans which do not get implemented or projects which fail to reach completeness, therefore without patterns in

time, leads to unrealized strategy. These are listed in the upper right box of Figure 15. To give just one example, the BMS/BMA Gold Accreditation was unrealized. This project was classified as "induced" because it was clearly consistent with the strategic categories when it was launched, such as customer satisfaction, employee satisfaction, and process measurement. With the BMS/BMA Gold Accreditation project, the organization structured many of its communication around the 7 dimensions of the Baldridge Management System (Leadership, Strategic Planning, Customer & Market, Information & Data; Human Resources, Process Management, Business Results). However, the ultimate objective was to obtain the gold accreditation by 2000-2001. "In 1997, we started evolving towards using the Baldridge as a management system with the use of the Business Performance Measurement (BPM). BPM gave us a framework to measure our business in five critical areas."[59] This initiative was principally consonant with the organization's focus on process measurement. In addition, two important processes in the BMS, the customer & market dimension and the human resources dimension could help make gains on customer satisfaction and employee satisfaction. While the organization continued to use the BMA/BMS terminology to structure its communication in SPS meetings, the project was never completed as the external assessment was not performed. "Several people tried to implement it. I know there was an internal audit but we never did the external audit to get BMA. I don't think that in the end we succeeded"[60] Because our focus is on emergent, not unrealized, strategy we do not describe the remaining project in U1-U2 here but do so briefly, rather, in an appendix (see Appendix I).

[59] Memo, senior leaders, 1998
[60] Support Director, interview

The next groupings of projects concern those initiated from autonomous behaviour. These can be seen in the two lower boxes of our diagram. The lower left box features ASB which is patterned in time and thus represents emergent strategy. Our study uncovered five projects leading to emergent strategy at TTC-SO. Conversely, the lower right box features autonomous strategic behaviour that was not sustained and did not result in a pattern over time. We term this 'ephemeral autonomous strategic behaviour" Our study uncovered two instances of ephemeral ASB at TTC-SO.

In the next section we look at the autonomous strategic behaviour stream and we present an overview of projects which lead to Emergent Strategy and Ephemeral ASB. We discuss how autonomous strategic behaviour unfolded in each case, as the basis for theorizing in subsequent chapters.

6.2 EMERGENT STRATEGY FROM AUTONOMOUS STRATEGIC BEHAVIOUR

Our study identified five projects constituting emergent strategy in TTC-SO: Supportability, Automated Install Tool, Real Time Data Metrics, Multilingual Call Center, and Follow the Sun; and two projects constituting ephemeral ASB: Customer Advocacy and Optical Off-Shoring to India

Table 18 presents each of these, describing the initial autonomous strategic behaviour, how it featured dissonance with the concept of strategy, and in which way it eventually modified an existing or introduced a new, strategic category as it endured for more than four periods. In this section we discuss each of the five projects making up emergent strategy.

Table 18: Projects Leading to Emergent Strategy

Projects Leading to Emergent Strategy	Autonomous Strategic Behaviour	Initial Dissonance with Key Strategic Category(ies)	New or Modified Strategic Category(ies)
ES1-Supportability Start Date 1999(2H)	The supportability project was launched to develop tools and procedures to ease the difficulty in supporting a particular product which was experiencing frequent outages in customer's networks.	- Cost Recovery: engineers could only recover part of their time against case management - Service Standardization: Network data collection service is non-standard, dedicated to a single product	- Product Supportability 2001(1H) - Design for Supportability 2003(2H)
ES2-Automated Install Base Tracking Start Date 2004 (1H)	The lab team created a tool to facilitate tracking of lab equipment. Project was later recycled by Supportability team looking to track equipment in customer networks.	- Service Profitability: initially project creates significant development costs, and has no revenue stream associated with it	- Service Profitability 2006(1H)[61]
ES3-Real Time Data Metrics Start Date 2004(2H)	A metrics manager envisioned an end-to-end solution to provide real time data metrics. He formulated a business case to merge two databases to reach this objective	- Service Profitability: initially project creates significant development costs, and has no revenue stream associated with it	- 48 Hour Case Closure 2006(1H)
ES4-Multilingual Call Center Start Date 2000(1H)	The Multilingual Call Center was launched as various call center managers collectively convinced TTC-SO's hierarchy to implement local languages to respond to their local customers	- Cost Recovery: duplicates the call flow[62] in other languages which carries the cost of recruiting bilingual/trilingual people or to carry additional staff - Product Quality: duplicates the call flow which may have a negative impact on service as more calls get dropped - Global Markets: local implementation focuses on regional needs and is dissonant with providing a unified global technical support interface to global customers	- Process & Tools Standardization 2001(1H)
ES5-Follow the Sun Start Date 2000(2H)	The Follow the Sun project was launched to attempt to provide continuous technical support by transferring customer issues across geographically dispersed teams for two products.	- Product Quality: dissociating 2nd tier functions from the North American center of excellence is dissonant with the concept of strategy which aims to co-locate 2nd tier support with its design counterpart - Service Standardization: implementing the project for a select number of products introduces non-standard processes for these products when compared with the rest of the product portfolio	- ESAT 2001(2H) - CSAT 2001(2H)

[61] Initial dissonance with category was later reduced as project shifted its focus from internal use to track lab equipment to external use to track customer equipment. See discussion of automated installed base tracking project.

[62] The call flow describes the various options possible to direct the customer call to the appropriate technical product support groups. Operators follow the call flow script in order to ask relevant questions and direct the customer call based on the type of product they are calling about.

6.2.1 ES1-Supportability

Our research identified autonomous strategic behaviour which would eventually be formally recognized and incorporated into TTC-SO's concept of strategy as "Product Supportability" in 2001 and "Design for Supportability" in 2003.

"Supportability is the relative degree to which a product and its supporting tools and/or processes allow field problems to be quickly characterized and resolved while minimizing the overall impact of engaging technical support on the customer's network and operations."[63] In 1999, a director from the core data line of business launched a team of three people to investigate and find ways to improve to ease of supporting a specific product which was experiencing frequent outages in customer networks. The objective was to build tools and procedures which could help reduce the time required to characterize and fix the problems and also minimize the impact to the customers' network by proactively identifying issues before they could impact customer applications. At its inception in 1999, while the Supportability project was indirectly consonant with "Product Quality" and "Customer Satisfaction", it was not induced by any strategic category and was, in fact, clearly dissonant with two – the strategic categories of "Cost Recovery" and "Service Standardization" (Table 19)

[63] Supportability Manager, 2001

Table 19: Supportability vs. Concept of Strategy in 1999(2H)

Strategic Category	Relationship to Supportability
Broad Portfolio	Not related
Product Quality	Indirectly consonant: activities related to improving support indirectly improve the product's quality
Selling Services	Not related
Global Markets	Not related
Traditional & New Operators	Not related
Internal & External Technology	Not related
Customer Satisfaction	Indirectly consonant: activities related to improving support indirectly improve customer satisfaction
Employee Satisfaction	Not related
Process Measurement	Not related
Cost Recovery	Clearly dissonant: people in the supportability team can't charge all their time to case management. Cost has to be absorbed as overhead for the unit and goes against the objective of 100% cost recovery • "It was difficult to keep people working on supportability because it was outside our immediate mandate. We had to find ways to charge for their time"[64] • "I had to find a way to isolate the individuals because they were being pulled into emergencies"[65]
Service Standardization	Clearly dissonant: network data collection service is non-standard, dedicated to a single product • "The first thing was really to tackle a couple of problems around network data collection and to launch such diagnostics of a certain product."[66] • "This was a local initiative that started from a local group."[67]
Mergers & Acquisition	Not related

Indeed, the centralization of a team of people dedicated to supportability issues meant that the engineers on the team could only partially track their time against case management. TTC-SO thus distributed the other portion of the time expended by supportability engineers to various overhead projects, which was dissonant with the objective of 100% cost recovery[68]. At TTC-SO, the engineer's principle work was to

[64] Support Project Manager, interview
[65] Support Project Director, interview
[66] Support Director, interview
[67] Support Director, interview
[68] Support Project Manager, interview

provide technical support for customers having problems with their networks. While this work might have involved looking at improving tools to prevent future customer issues, present day emergencies would usually take precedence over proactive or preventive support work. The mandate of the group combined with the objective of cost recovery made it difficult for any TTC-SO engineer to work on supportability work at the expense of daily emergencies: The reason why we centralized it was to ensure that the individuals working on the program were dedicated and weren't pulled back into customer support emergencies so that we could launch a project and complete a project without jeopardizing conflicting priorities."[69].

The team was first launched to look at issues surrounding a single group of products. In the early stages of the Supportability initiative, the team had only 3 people working for it. The team was given the mandate to develop tools and procedures for a single product, so the early services it developed and provided were non-standard, as they only focused on that one product: "The first thing was really to tackle a couple of problems around network data collection and to launch such diagnostics of a certain product."[70] Thus, the project was dissonant with service standardization.

The group of products which was chosen to launch the initiative was in the growth phase of its life-cycle. The team chose this product group because it had already a sizable installed base of customers. Table 20 shows a chronology of the Supportability initiative.

[69] Support Director, interview
[70] Support Director

Table 20: Chronology of the Supportability Project

Time Period	Event
1999 (2H)	Customer network experiencing frequent outages with one specific product prompts director to look into ways to ease support of this product. The idea of having a Supportability project is formulated.
1999 (2H)	Supportability project is launched. 3 people dedicated to building tools, defining requirements and building awareness are identified as part of the Supportability team.
2000 (1H)	Supportability team surveys supportability tools from another line of business and begins to share tools between the two LOBs.
2000 (2H)	Design team for new product invests some of development budget to secure supportability resources during development phase.
2001 (1H)	"Product Supportability" is made part of strategic objectives for support group of all lines of business and is listed as one of the four pillars of providing carrier grade support.
2001 (2H)	Support teams for each line of business are now required to measure the supportability of their product. An expanded mandate is given to the Supportability team, to extend the tools and requirements beyond initial core data product line. 17 people are on the team by this point.
2001 (2H)	Customer requests supportability feature from design team after it is demonstrated by Supportability team.
2003	New Strategic category introduced: "Design for Supportability" 59 people are in the Supportability team.
2005-2006	Supportability becomes formally recognized as a product attribute. The attribute now becomes the responsibility of the design organization. Support organization continues to promote supportability.

The chronology shows how the team started with a local mandate and focused on a single product line for two years. Once the Supportability team was able to successfully build tools for the first product line the director began to survey tools from the Enterprise line of business support organization in order to investigate opportunities to share tools between LOBs and to replicate the initiative with products which did not have supportability features documented. "We therefore started looking at more and more products and started to develop a set of attributes so that we could start judging products against each other. We put together a specification document based on our collective experience using all the subject matter experts in the organization to develop what we

called "product supportability requirements"[71] This enabled the team to communicate requirements to other teams as well as to measure which products had the best supportability features.

In addition to communicating in this manner, the team deployed efforts to build additional support from other business units. One such example was the implementation of an auto-patching feature. While the engineers from the data product group at TTC-SO felt the need to have that feature in order to provide non-disruptive patching, the design group responsible for the investment was not convinced it should make the investment. "So it took sessions all the way to the project management team; it took executive support even though we were driving the program and providing most of the resources on it."

In another instance, the resources were assigned temporarily to a group leader in the design organization in order to protect them from the risk of being pulled into an urgent project which would jeopardize the completion of the supportability feature. "I actually agreed with design on a headcount which we would dedicate to supportability. This helped secure the implementation."[72]

From a product technology standpoint, supportability tools were used and replicated across various platforms as the team developed common standards. The organization was able to leverage the initiative of standard engineering. "Finally TTC is developing common engineering standards so that we can develop a tool and incorporate it in the standard and it can be used for all new products. And then we have another generic layer which comes on top. If you build something using that base then it can be

[71] Support director
[72] idem

ported across any new products using the common standard layer. We have built hitless patching and reset patching on it. So anyone using it would get these features basically for free."[73].

While the Supportability project was initially dissonant with "Cost Recovery" and "Service Standardization" it eventually grew into a pattern in action as the concept of strategy was modified to explicitly include "Product Supportability" in 2001 and "Design for Supportability" in 2003. The reorganization and centralization of the Supportability team in 2001 enabled to reduce dissonance with "Service Standardization" as it promoted common supportability features and services across products. In similar fashion, the modification of "Product Supportability to "Design for Supportability" and the eventual transfer of responsibility of supportability as a product attribute to the design group reduced dissonance as supportability development costs could be transferred to design.

6.2.2 ES2-Automated Install Base Tracking Tool

Our research identified autonomous strategic behaviour which would eventually be formally recognized and incorporated into TTC-SO's concept of strategy as part of "Service Profitability" in 2006. Our analysis uncovered that the project was first formulated as the lab people begun developing a tool in order to track internal equipment.

At its inception in 2004(1H), while the Automated Installed Base Tracking Tool project was indirectly consonant with "Internal & External Technology" it was not induced by any strategic category and was, in fact, clearly dissonant with one – the strategic category of "Service Profitability" (Table 21). Indeed, the development of such

[73] idem

a tool required significant effort from the lab people[74], and did not bring any additional revenue. It was a tool built for efficiency purposes which carried costs which far exceeded potential cost savings. As such, it was clearly dissonant with the concept of strategy of TTC-SO which included "Service Profitability".

Table 21: Automated Installed Base Tracking Tool vs. Concept of Strategy in 2004(1H)

Strategic Category	Relationship to Automated Installed Base Tracking Tool
Product Quality	Not related
Selling Services	Not related (at time of inception)
Global Markets	Not related
Traditional & New Operators	Not related
Internal & External Technology	Indirectly consonant: activities relating to tracking lab equipment more efficiently may indirectly facilitate management of labs which are comprised of both internal and external technology
Customer Satisfaction	Not related
Employee Satisfaction	Not related
Process Measurement	Not related
Design for Supportability	Not related
Original Equipment Manufacturing	Not related
Service Profitability	Clearly dissonant: tool requires significant development work and brings no additional revenues as it is only designed for internal purposes • "Our development was costly and it was just for our lab purposes, so we stopped working on it because we did not see dollars attached to it."[75] • "The tool was cool and it did a lot but it was overkill for us."[76]
Service Standardization	Not related
Process & Tools Standardization	Not related
Divesting Products	Not related
Security & Crisis Management	Not related
True 2-tier Support Model	Not related

In 2005(2H), the Supportability team took ownership of the project as TTC-SO was trying to develop a precise view of customer networks in order to be able to decide the fees which should be levied on a given customer based on the size of their networks.

[74] Support Manager, interview
[75] Support Manager, interview
[76] Support Manager, interview

"We needed something that could tell us how many nodes they had in their network. We provide support based on the size of the network. However, we had no way of knowing if the customer had 5 boxes or 50 boxes. With this tool we can charge the appropriate amount of service fees for our support."[77]

Table 22: Automated Installed Base Tracking Tool Chronology

Time Period	Event
2004(1H)	Automated Installed Base Tracking Tool is built to track the equipment in the various labs. The tool is unsanctioned and designed for internal use only.
2005(2H)	Supportability team takes ownership of project in order to track installed base of customer networks.
2005(2H)-2006(1H)	30 scripts are created as team intends to port tool across various products in the portfolio
2006(1H)	Warrantee group promotes the integration of three processes (serial numbering, order management & installed base tracking) in order to generate more revenues from its repair & return service.
2006(1H)	Lab tool is recycled and adapted to monitor customer networks. Project is tied to need to generate revenues from installed base of customer networks. The tool is implemented across series of TTC products.
2006(1H)	Team produces revenue projections based on pilot test of tracking of one customer network. Project links its activities to "Service Profitability".

The Automated Installed Base Tracking Tool initiative was taken over by the Supportability team as TTC-SO was attempting to track accurately the number of network components in a customer network. However, the tool was initially conceived for another purpose by the lab team. Table 22 shows a high level chronology of events for this initiative.

However, once the tool was recycled by the Supportability team, previous work performed by the lab team was leveraged as it was implemented across various platforms in order to track customer network components. "We launched awareness of supportability, and took other tools that had been developed like skunk work if you will

[77] Support Manager, interview

and tried to make then a little bit more commonplace and mainstream whereas we consider a supportability tool to be one that is documented, supported in a release, and tested release of release, etc; and so, we took some tools and formalized them."[78] The project benefited from the Warrantee group's efforts in promoting the integration of three processes (serial numbering, order management & installed base tracking) in order to generate more revenues from its repair & return service.[79] By coordinating efforts to track the installed base with the process of creating serial numbers and the process of order management, the project manager was able to position the project as part of a larger initiative of warrantee management. This facilitated the manager's efforts in securing resources to continue to develop scripts to port the tool across TTC-SO's various products.

The unfavourable strategic context of developing such a tool for internal purposes shifted into a positive one by associating the tool implementation with "Service Profitability" by adding revenue generating streams from its operation on customer networks. "Service Profitability" implies tying revenues to costs which are incurred while delivering support services. Thus the initiative started (2004) as a project at odds with the concept of strategy since it generated costs and had no revenues tied to it. However, the Supportability team shifted its application to customer networks and was able to link the project with "Service Profitability" via its ability to rationalize its use with the potential to boost warrantee revenues[80]. The supportability team conducted a survey of an existing customer network using the tracking tool and new objectives for additional revenues were derived from this pilot test. "The biggest driver for service revenue is related to how

[78] Support Director, interview
[79] Support Manager, interview
[80] Support Manager, interview

many pieces customers have in their network."[81] Thus, the initial dissonance was reduced once the project shifted from internal its focus for the lab equipment to its external focus with the customer equipment.

6.2.3 ES3-Real Time Data Metrics

Our research identified autonomous strategic behaviour which would eventually be formally recognized and incorporated into TTC-SO's concept of strategy as part of "48 Hour Case Closure" in 2006 (1H).

Prior to 2001, metrics calculations required high technical proficiency and were performed by metrics experts who were able to interpret divergent data from many sources. "Before 2001, the big issue was metrics consistency. The result varied depending on who was building the report. It was often a matter of interpretation, and it depended on the tools used and the criteria for sorting."[82] At that time, the primary imperative for metrics was to be able to produce TL9000 metrics in order to meet the ISO standard for the industry. Operational metrics were difficult to produce so producing them was done only at the request of high level executives. After 2001, TTC-SO implemented a company wide data warehouse which would unify all data sources and enforce consistency across products. This also facilitated access to operational data as more reports could be produced with less technical ability and under shorter time frames. "This meant a lower proficiency was required to pull the reports. This also changed the target audience because more people could build the reports. Now both executives and

[81] Support Manager, interview
[82] Support Project Manager, interview

groups & teams could have access to metrics. Also the consistency improved; we had more functionality and more detail." [83]

However, two interfaces provided access to the data and neither solution had been implemented fully. "You try to do your analytical what-if analysis in your Cognos world, which was great; but then you drill through to the details you need in business objects. They never brought in the full solution of Cognos; they never brought in the full solution of Business Objects. I don't know what they were planning. Now you had to crunch the data in cubes in Cognos but yet you were still uploading data in Business Objects. You had two different data feeds, feeding two different databases in two different systems: absolute mess, which led to inconsistencies in the data."[84]

The project manager for Real-Time Data Metric's project envisioned an end-to-end solution in order to merge the two separate databases together and to provide real time view of case data for the support engineers of TTC-SO. At its inception in 2003(2H), the Real Time Data Metrics project was not induced by any strategic category and was, in fact, clearly dissonant with one – the strategic category of "Service Profitability" (Table 23).

Table 23: Real Time Data Metrics vs. Concept of Strategy in 2004(2H)

Strategic Category	Relationship to Automated Installed Base Tracking Tool
Product Quality	Not related
Selling Services	Not related
Global Markets	Not related
Traditional & New Operators	Not related
Internal & External Technology	Not related
Customer Satisfaction	Not related
Employee Satisfaction	Not related
Process Measurement	Not related

[83] Support Project Manager, interview
[84] Support Manager, interview

Design for Supportability	Not related
Original Equipment Manufacturer	Not related
Service Profitability	Clearly dissonant: tool requires significant development work and brings no additional revenues as it is only designed for internal purposes • "It was costly and no one wanted to pay for it. IS did not want to fund it and our business leaders did not want to pay for better reports."[85] • "You had to make a business case for it and they did not buy my cost savings from more efficient work, so they did not fund it."[86]
Service Standardization	Not related
Process & Tools Standardization	Not related
Divesting Products	Not related
Security & Crisis Management	Not related
True 2-tier Support Model	Not related

Toward the latter part of 2004, the project manager for metrics proposed a solution for obtaining real time data metrics. It involved migrating to a single database. However, the project would require funding from the IS department and would bring no additional revenues. This was clearly dissonant with the strategic category of "Service Profitability" as it required funds which would not be offset by any revenue increase. "I went in first with saving time, drill down tools, and running with real-time data, and that failed. It was not successful. We wanted to launch the project in January, and we were not successful."[87]

The project was dormant for 9 months before it was given new impetus in a meeting with IS. Table 24 shows a high level chronology of events. During this meeting, the project manager learned that the old version of Cognos would no longer be supported by the supplier and that staying on such a platform would require TTC-SO to invest heavily in new licenses for the old solution.

[85] Support Manager, interview
[86] Support Manager, interview
[87] Support Manager, interview

Table 24: Real Time Data Metrics Chronology

Time Period	Event
2004(2H)	Manager envisions end-to-end solution for metrics to provide real time data metrics Business case is built and presented by metric's project manager to merge two databases in order to provide real time data.
2005(1H)	Operational managers requesting ability to access their case workload in real time fashion. Current system updates at night and can't provide functionality
2005(1H)	IS team denies the funding to merge the two databases based on the original business case
2006(1H)	Interface no longer supported by supplier of one of the databases
2006(1H)	Metric's manager in charge of project is moved under a new Vice-President giving him more visibility
2006(1H)	Project is linked with "48 Hour Case Closure" as managers request real time data metrics to produce and monitor work on hand reports in real time fashion
2006(2H)	Project is reframed in terms of licensing fee cost savings
2006(2H)	Project is approved and funded

As the new strategic category of "48 Hour Case Closure"[88] became part of the concept of strategy in 2005 (1H), operational manager requested the ability to view their case load data in real-time. "It sort of happened at the same time or after since it was unfolding last year. That is why everybody was saying: yes real time data, give it to us."[89] The business case was reframed in terms of costs of licensing fees for staying versus development costs of moving to new solution and it was approved. "That was my nail in the coffin, kind of thing, to push it forward in order to get the funding. I told them "if you stay were you are, and you can't migrate over because you don't have all the functionality, you are going to get hit hard with licensing fees; and no support from Business Objects because they no longer support that version."[90] The IS team obtained the funding to merge the two databases and the project was implemented.

[88] SPS package, 2006
[89] Support Project Manager, interview
[90] Support Project Manager, interview

6.2.4 ES4-Multilingual Call Center

Our research identified autonomous strategic behaviour which would eventually be formally recognized and incorporated into TTC-SO's concept of strategy as part of "Process & Tools Standardization" in 2001(1H). The North American manager had identified a need to offer French service for francophone customers in North America. This was prompted by a customer visit during which the manager was informed of the customer's desire for that capability. "They told me they wanted the ability to call TTC-SO and get served in French. They did not understand why we were not already providing a French interface for our Francophone clients."[91] This meant creating a duplicate routing script and ensuring some of the call center people were able to service customers in French.

At its inception in 2000(1H), while the Multilingual Call Center project was indirectly consonant with "Customer Satisfaction" it was not induced by any strategic category and was, in fact, clearly dissonant with three – the strategic categories of "Cost Recovery", "Product Quality" and "Global Markets" (Table 25).

When the project was first formulated, while the initiative could potentially respond to the concerns of some of TTC-SO's local customers, the link with "Customer Satisfaction" was not viewed by TTC-SO's hierarchy as significant as the director felt this initiative would deal with an exception rather than the norm. "He thought it was very expensive and that this customer was an exception. He did not see why we would make a change based on an exception."[92] The project carried additional costs and was not

[91] Support Project Manager, interview
[92] Support Manager, interview

associated with additional revenues which would impact "Cost Recovery" negatively. In addition to this the director felt that the quality of the service could be impacted given the new language flows would have untrained people and fewer calls to build expertise from which would impact "Product Quality". Finally, this project was perceived as dissonant with delivering a unified support technical service to "Global Markets", by introducing exception cases in the call flow.

Table 25: Multilingual Call Center vs. Concept of Strategy in 2000(1H)

Strategic Category	Relationship to Automated Installed Base Tracking Tool
Broad Portfolio	Not related
Product Quality	Clearly Dissonant: implementing local language raises difficulty in measuring quality of service provided • "My director was worried that the flow would have fewer calls and that it would be poorly managed and that as a result we would drop some of the calls"[93]
Selling Services	Not related
Global Markets	Clearly Dissonant: local implementation focuses on regional needs and is dissonant with providing a unified global technical support interface to global customers • "He did not see why we would make a change based on an exception."[94]
Traditional & New Operators	Not related
Internal & External Technology	Not related
Customer Satisfaction	Indirectly Consonant: implementing additional languages in call center might raise satisfaction for customers concerned by language need
Employee Satisfaction	Not related
Process Measurement	Not related
Cost Recovery	Clearly Dissonant: duplicates the call flow in other languages which carries the cost of recruiting bilingual/trilingual people or to carry additional staff • "He thought it was very expensive and that this customer was an exception."[95]
Service Standardization	Not related
Mergers & Acquisitions	Not related

[93] Support Manager, interview
[94] Support Manager, interview
[95] Support Manager, interview

Despite the initial dissonance, the multilingual call center was implemented successfully in three languages (French, English, Spanish) and it operated until 2002(1H). Table 26 lists the high level chronology of the multilingual call center strategy

Table 26: Multilingual Call Center Chronology

Time Period	Event
2000(1H)	Multilingual initiative discussed during meeting between North American and CALA regional call center managers. Managers discuss their need for additional language to serve their local customers.
2000(2H)	CALA manager supports the initiative by producing a call flow in Spanish
2000(2H)	Call Center in North America begins to hire and train French speaking operators
2001(1H)	Multilingual service for customer calls is accepted as standard procedure for North America and CALA call centers
2000(2H)-2002(1H)	North American call center produces metrics for dropped calls targets, "CSAT" targets, and Transaction Surveys targets

Without approval and support from the hierarchy, the project did not gain traction until the project manager had a conversation with another call center manager from the Caribbean and Latin America group (CALA). The CALA representative had indentified a similar need to implement a Spanish call flow for his region. "They told me that their clients were complaining because they wanted to get a call flow in Spanish."[96]

The project thus stalled for several months and was only constructed and promoted as being consonant with the category of "Process & Tools Standardization" in 2001(1H), once a coalition was formed between call center managers from the two regions. "Finally after pushing for each other's language for several weeks, the committee accepted and we implemented the trilingual call flow. I think it worked because instead of being an exception this could become a standard way of doing

[96] Support Project Manager, interview

business: French for French customers, Spanish for Latin America and English for everyone."[97]

6.2.5 ES5-Follow the Sun

Our research identified autonomous strategic behaviour which would eventually be formally recognized and incorporated into TTC-SO's concept of strategy as part of "CSAT" in 2001(2H) & "ESAT" in 2001(2H). At its inception in 2000(2H), the Follow the Sun project was not induced by any strategic category and was, in fact, clearly dissonant with two – the strategic categories of "Product Quality", and "Service Standardization" (Table 27).

[97] Support Project Manager, interview

Table 27: Follow the Sun vs. Concept of Strategy in 2000(2H)

Strategic Category	Relationship to Automated Installed Base Tracking Tool
Broad Portfolio	Not related
Product Quality	Clearly Dissonant: dissociating 2nd tier functions from the North American center of excellence is dissonant with the concept of strategy which aims to co-locate 2nd tier support with its design counterpart • "Our vice president never believed in it. He thought the only way to deliver high quality support was to have our guys co-located with the design group"
Selling Services	Not related
Global Markets	Not related
Traditional & New Operators	Not related
Internal & External Technology	Not related
Customer Satisfaction	Not related
Employee Satisfaction	Not related
Process Measurement	Not related
Cost Recovery	Not related
Service Standardization	Clearly Dissonant: implementing the project for a select number of products introduces non-standard processes for these products when compared with the rest of the product portfolio • "Not all the products came on board initially. We started with a product that had a lot of problems. This thing was a bit of an exception"[98]
Mergers & Acquisitions	Not related

With Follow the Sun (FTS), TTC-SO created four regional teams (North America West, North America East, France, and Australia) in order to continuously work customer issues around the clock by transferring tickets between teams, taking advantage of the various time zones of the four support teams.

Table 28 lists a high level chronology of events for this project.

Table 28: Follow the Sun Chronology

Time Period	Event
2000(2H)	Director formulates idea to leverage different time zones around the globe in order to provide 24h support to customers without asking engineers to work off-hours
2000(2H)	Australian team is launched. Manager from Australia conducts a site visit of North American team in order to build expertise for pilot product

[98] Support Director, interview

2001(1H)	Two more regional teams are created: France and US West coast
2001(1H)	Documents for case management and transfers across regions is created; procedures for outage escalations[99] from regions to Design are created
2001(1H)	Pager and overtime hours are reduced in North America as regional teams handle off-hour calls
2001(1H)	Follow the Sun is presented as 'best practice' in SPS package along with metrics showing impact on "CSAT" and "ESAT"
2001(2H)	Follow the Sun project is documented as part of the True 2-Tier Support Model for selected data products
2003	Follow the Sun model is cancelled. 2nd Tier Support mandate removed from regional teams

Follow the Sun was created with the premise that it could allow TTC-SO employees to work continuously on customer issues as cases would be passed from one team to another by taking advantage of time zones around the world. The project was launched for two products although it was dissonant with the strategic categories of "Service Standardization". In addition to proposing a non standard model, Follow the Sun was perceived by the Vice-President as negatively affecting "Product Quality". "Our VP never believed in the project. He felt that we would lose the expertise if our 2nd Tier Support would not be co-located with Design". [100]

In the first half of 2000, TTC-SO had launched the Center of Excellence project which co-located the support function with its design counterpart. This was consonant with the strategic category of co-location between 2nd Tier Support and Design. "It creates an ability to develop deep technical skills in the support function."[101] Yet, some products in the portfolio still had not achieved co-location. One such case had an R&D team based in the West Coast of USA while the support team was in Canada. The product had been acquired and it was felt the best R&D expertise would be in the West Coast

[99] Escalations are events during which the technical issue is passed from one group to another, more technical group. Escalations may go from support to design.
[100] Support Manager, interview
[101] Support Director, interview

while the rest of the Line of Business support was located in Canada. "It was a bit of a disadvantage to not be co-located with the R&D team; in fact it was a fairly strong disadvantage but we took the attitude of what can we do, how can we help, how can we get involved."[102] This product was also relatively more unstable than other comparable products in the portfolio given that it had been developed outside of TTC's carrier grade norms. "We measure networks at the time on something we call scale 9000, which is the minutes that your box is down in the field; or well the converse it was the minutes it stayed up; 5 9's[103] reliability means that it is down for 5 minutes. At that point, we were running something like 36 to 38 minutes per year. And that is for reported outages. It did not count all the stuff that people did not report, which is usually about double."[104]

Given the instability of the product the pressure on the support team to recover from frequent outages meant that the team would spend long hours, and required engineers to be on pager support and to frequently answer calls during the night. In this context, it was felt that a regional support model could help alleviate some of the pressure from the 2nd Tier Support team. "People were carrying pagers. It almost killed us. I mean, we were working an outage or two a night. So it became really a work-life balance issue. Then the Australian team had five or six people. Just working with them, they were very competent. And we decided to start working together better. But that was because the team that was there at the time and myself, just made that decision. It was not a corporate directive. Then our director pushed to get France into the model.[105]

[102] Support Manager, interview
[103] 5 9's means 99.999% reliability. In other words the equipment is only down 1/100000 of the time.
[104] Support Manager, interview
[105] Support Director, interview

The FTS model was therefore implemented first for a single product as the team was having tremendous difficulty maintaining employee satisfaction levels since the product was very unstable. Once the concept had been proven, it was rolled out to another product, ultimately enduring for over two years.

However, in 2003 amidst increasing pressure to cut cost and to reduce the number of people in the organization, the regional FTS teams were eliminated.[106] The focus was once again on co-locating design and support as the West Coast Design team was relocated in the East Coast together with other similar products.

In the following section we look at instances of autonomous strategic behaviour which lead to Ephemeral ASB.

6.3 AUTONOMOUS STRATEGIC BEHAVIOUR STREAM: EPHEMERAL ASB

Our study revealed two instances of ephemeral ASB: Customer Advocacy and Optical Off-Shoring to India. Table 29 describes each of these initiatives as well as the dissonance each presented with the concept of strategy.

Table 29: Ephemeral ASB

Strategy	Autonomous Strategic Behaviour	Initial Dissonance with Strategic Category
EASB1-Customer Advocacy	The team was created by a director who saw the need to assist important customers with non-technical issues. The team invested time and resources to sell the service to customers.	- Cost Recovery: having customer advocates operate from the support group meant that they would have to find a way to generate their own revenues since the group could not assign all their time on case management issues. - Service Standardization: service is only available to certain product groups making it non-standard.
EASB2-Optical	The Off-shoring of 2nd tier optical	- Process & Tools Standardization: India was

[106] SPS package, 2003

Off-Shoring	support was implemented in India by a director who saw an opportunity to reduce costs. This was done independently of other off-shoring activities and before TTC-SO launched into off-shoring as a deliberate strategy.	not the preferred location for off-shoring which meant that the Optical group was not following the standard of the rest of TTC-SO for off-shoring activities - True 2-tier Support Model**:** TTC-SO had not yet formalized off-shoring as a deliberate strategy. The project was therefore dissonant with the 2-tier model which did not route 2nd tier calls to regional centers

6.3.1 EASB1-Customer Advocacy

Our research identified ephemeral autonomous strategic behaviour as the project of Customer Advocacy[107] was launched in 2000(1H) and was disbanded eighteen months later in 2001(2H) without leaving a significant or enduring trace. At its inception, while the Customer Advocacy project was indirectly consonant with "Customer Satisfaction", it was not induced by any strategic category and was, in fact, clearly dissonant with two – the strategic categories of "Cost Recovery" and "Service Standardization" (Table 30)

Table 30: Customer Advocacy vs. Concept of Strategy in 2000(1H)

Strategic Category	Relationship to Automated Installed Base Tracking Tool
Broad Portfolio	Not related
Product Quality	Not related
Selling Services	Not related
Global Markets	Not related
Traditional & New Operators	Not related
Internal & External Technology	Not related
Customer Satisfaction	Indirectly Consonant
Employee Satisfaction	Not related
Process Measurement	Not related
Cost Recovery	Clearly Dissonant • "It was in our best interest to also provide some type of assistance beyond the tech support team."[108] • "He asked me to build it and wanted us to find a way to recover our cost because this was not tech support."[109]
Service Standardization	Clearly Dissonant • "Our vice president liked the idea but he did not think it fit with what we were doing here. He liked it better in another organization."[110] • "The people who could have given us an order code to charge for our services did not find that our offering represented something standard. They felt we were a local exception."[111]
Mergers & Acquisitions	Not related

[107] The researcher was a principal actor in this project at the time it unfolded.
[108] Support Director, interview
[109] Support Director, interview
[110] Support Director, interview
[111] Support Manager, interview

Indeed, the Customer Advocacy team was created to fill a perceived gap in answering non technical queries by one of TTC's directors. "It was in our best interest to also provide some type of assistance beyond the tech support team. The sales guys would provide the help but they were not the best one to deliver this service"[112] The director perceived it as an initiative which could increase customer satisfaction since he felt that when customers would call about issues which were not technical in nature, they were provided with poor customer care and would often end up being transferred around several groups as no one felt ownership of these numerous non technical issues. These requests would encompass problems such as looking for documentation, trying to navigate the eService portal, reaching the right person at TTC or bringing management attention to lingering technical problems. "Before we only had customer support. So when a customer would need assistance but not technical assistance they had only the sales team to call. As you know the sales team had a sales mandate, not a customer call mandate."[113] However, the Vice-President felt the project was not launched out of the proper group. "He thought we needed the service but did not like that we (TTC-SO) were delivering it."[114] The project was clearly dissonant with two strategic categories. First, having customer advocates operate from the support group meant that they would have to find a way to generate their own revenues since the group could not assign all their time on case management issues. This implied the project was dissonant with "Cost Recovery". Second, given that it did not benefit from the support of the Vice-President, the project was launched locally and would only be implemented, at first, for five products. This meant the service would be non-standard which was dissonant with

[112] Support Director, interview
[113] Support director
[114] Support Director, interview

"Service Standardization". Therefore, while the project could potentially help bolster "Customer Satisfaction", it did not have the support of the hierarchy, was launched locally and was clearly dissonant with two strategic categories from the concept of strategy. Table 31 shows a high level chronology of events for Customer Advocacy.

Table 31: Customer Advocacy Chronology

Time Period	Event
2000(1H)	Customer Advocacy function appears in a SPS package. The CA team is showed operating across 5 products, including the carrier and enterprise customers.[115]
2000(2H)	Operational managers requesting advocates as accounts get positive feedback from operational managers having advocates on their accounts.
2001(1H)	Customer Advocacy manager attempts to sell concept to Service Revenue group to obtain an order code. Meetings are held between representatives from TTC-SO and Service Revenue group.
2001(1H)	Two existing customers using Customer Advocacy services indicate their willingness to pay for service.
2001(1H)	Service Revenue group indicates they will not create an order code for Customer Advocacy as they perceive service to be non-standard, which means the Customer Advocacy team is not able to charge the customers for the service they provide to them.
2001(2H)	Workforce reduction: Customer advocates are redeployed in other support functions and group is disbanded.

The first customer advocates were hired in first half of 2000. The manager who was tasked with the project was given ample latitude in terms of the structure and content of the work. "He told me I had to build CA, but he did not tell me what it was exactly."[116] The mandate was articulated as follows: "Customer Advocacy group is responsible for representing the business for each General Manager, resolving non technical customer queries, coordinating across LOB activities, going the extra mile for the customer."[117]

The CA group started with a select number of customers along with a distinct focus on a single line of products from the carrier data portfolio. This initial phase was a

[115] SPS Package, 2000
[116] Support manager
[117] SPS, 1999

local implementation of CA as the team had a limited mandate both from a customer breadth perspective and from a product breadth perspective. The tasks involved in delivering CA work included many of the non technical tasks such as management of call tickets, upgrade assistance, information requests, customer introductions, building metrics and transactional surveys.

The initial phase brought positive feedback for the Customer Advocates. The engineers were very happy with the work of Customer Advocates as they were able to deflect the non-technical requests from the customers back to the CA team. "The customer advocates were very useful. I remember they would take a lot of the problems away from my staff. All the things we did not want to deal with they would take the lead on. My engineers could focus on solving technical problems. And the customers really liked them because they felt that they really cared. Now we have to deal with all that stuff; it makes it difficult to focus on their real job."[118] In addition, customers were very happy to get premium service and they provided the team with positive feedback. The feedback was later used as "Customer Satisfaction" quotes in order to attempt to justify the expansion of the service. "I showed the executives the quotes from our satisfied customers. I had many examples and they were very useful."[119]

Once the initial phase proved to be a success, the team increased the number of customer advocates as they took on more customer accounts. Additional products managers requested CAs as the service diversified along the breadth of technology portfolio. The Customer Advocacy function was featured as part of the support model

[118] Support Manager, interview
[119] Support Director, interview

communicated to all support engineers in the 2000 Global Information Session.[120] The team started to replicate the model increasing customer and product coverage.

However, one of the objectives of the team since its inception was to generate its own revenue stream by asking premium customers to pay for the service.[121] While, the team was attempting to generate its own "Cost Recovery" by selling the service, the rest of the support organization remained a cost center. "We tried to create an order code. We had a guy working on this almost full time, negotiating with the guys from service packs. We presented the business case several times but we were unable to generate the order code to bill the customer. First they were asking for the model and we sent the information. Then they wanted to know if customers would pay for it. We held a couple of round tables with some of the most satisfied customers receiving premium CA services. They told us what a competitor was billing for similar services. I had one customer committed to purchasing a full advocate and one willing to pay for half. That alone would have recouped half of my team's overhead. We presented that information but they said the service was not aligned with other areas. In the end we never did sell the service and the team folded."[122] By 2001, workforce reductions were putting pressure on all directors to reduce the number of people in each area. The CA mandate was initially transferred outside of the organization. None of the customer advocates transferred to the new organization, and the team was later disbanded.

This case features two sources of dissonance. The first one is that CA was a non-technical support team operating inside tech support. While the autonomous strategic behaviour was initiated to fill an organizational gap, it still represented overhead costs not

[120] SPS package, 2000
[121] SPS package, 1999
[122] Support manager

aligned with the concept of strategy for TTC-SO. "I went to see the executives for an hour, and I made my sales pitch about the requirement for this team. The thing had already been implemented; we had hired people and put the idea in motion… He thought it was a good idea, just not in the right place"[123] Second, the activities to generate revenue inside a cost center, also presented a source of dissonance.

6.3.2 EASB2-Optical Off-Shoring to India

Our research identified ephemeral autonomous strategic behaviour as the project of Optical Off-Shoring to India was launched in 2004(2H) and was disbanded months later in 2005(1H). At its inception, while the project was indirectly consonant with "Service Profitability", it was not induced by any strategic category and was, in fact, clearly dissonant with two – the strategic categories of "Process & Tools Standardization" and "True 2-tier Support Model" (table 32).

Table 32: Optical Off-Shoring to India vs. Concept of Strategy in 2004(2H)

Strategic Category	Relationship to Automated Installed Base Tracking Tool
Product Quality	Not related
Selling Services	Not related
Global Markets	Not related
Traditional & New Operators	Not related
Internal & External Technology	Not related
Customer Satisfaction	Not related
Employee Satisfaction	Not related
Process Measurement	Not related
Design for Supportability	Not related
Original Equipment Manufacturing	Not related
Service Profitability	Indirectly related: while the initiative reduces costs compared to having operations in North America, it does not present a significant cost advantage over off-shoring to Turkey, the rival location
Service Standardization	Not related

[123] Support Director, interview

Process & Tools Standardization	Clearly Dissonant: India at the time was not the location for off-shoring which meant that the Optical group was not following the standard of the rest of TTC-SO for off-shoring activities • "Moving our second tier support stuff to India was not consistent with what other groups were doing"[124]
Divesting Products	Not related
Security & Crisis Management	Not related
True 2-Tier Support Model	Clearly Dissonant: at the time of inception, TTC-SO had not yet formalized off-shoring as a deliberate strategy, making such a move dissonant with the 2-tier model which did not route 2nd tier calls to regional centers • "When I started this project, off-shoring of second tier support functions was not aligned with the push for collocating with centers of excellence"[125]

Indeed, while the initiative would reduce costs compared to having operations in North America, it did not offer a significant cost advantage over off-shoring to Turkey, the rival location from TTC-SO's perspective in 2004(2H). Table 33 shows the cost savings using a 100 basis comparison. Turkey, Mexico & China's numbers are computed as a fraction of North America's salaries.[126] While, the archived data we used to produce the table did not have the figure for India, our interview data yielded that India had somewhat lower costs than Turkey but higher than Mexico.[127]

Table 33: Off-Shoring vs. Relative Cost of Engineer

Off-Shoring Location	Relative Cost
North America	100
Turkey	53
India	Somewhat lower than Turkey, higher than Mexico
Mexico	28
China	23

[124] Support Director, interview
[125] Support Director, interview
[126] SPS package, 2007
[127] Support Director, interview

However, the project was clearly dissonant with two categories. First, at the time of inception, TTC-SO had not yet formalized off-shoring as a deliberate strategy, making such a move dissonant with the "True 2-Tier Support Model" which did not route 2nd tier calls to regional centers. Indeed, the model would co-locate the people fielding 2nd tier support calls with the corresponding design groups. "The goal was to facilitate the knowledge transfer between the two groups and to create a more technically skilled team by giving them exposure to the design team."[128] It also facilitated resolution of problems as the two groups were thereby in the same time zone.

Second, India at that time was not the preferred location for off-shoring for other groups at TTC-SO which were building capabilities in Turkey. This meant that the Optical group was not following the standard of the rest of TTC-SO for its off-shoring activities. Off-Shoring to India was therefore dissonant with TTC-SO's concept of strategy in 2004(2H).

The optical off-shoring project was initiated as TTC-SO was facing continued pressures to find ways to reduce its costs. The director of Optical attempted to relocate its 2nd tier support function from North America to India. This initiative was launched in 2004, two years before TTC-SO began to systematically off-shore 2nd tier support as part of its deliberate strategy. Table 33 show a chronology of the off-shoring of 2nd tier optical to India.

Table 34: Optical Off-Shoring Chronology

Time Period	Event
2004(2H)	Director of Optical in TTC-SO formulates idea to off-shore some of the 2nd tier support calls to the regional India optical group in charge of 1st tier support.
2004(2H)	Optical team in India begins training to handle 2nd tier support calls

[128] Support Director, interview

2004(2H)	Optical team in North America begins to transfer calls to India for 2nd tier support. Calls for 1st tier support in India are escalated to India directly.
2005(1H)	Team is disbanded as TTC-SO's hierarchy decides Turkey will be the main off-shoring destination for all product groups including Optical

In 2002-2003, the Optical group was under pressure to reduce costs and it had to face potential workforce reductions. Several efforts were made by the directors to reduce the costs by consolidating all the non-order management functions. "So if the customer had any type of problem we could deal with it in a holistic fashion. If it was a hardware issue, it was my problem; if it was a retrofit issue it was my problem. If the Customer Introduction would screw up; it was my problem. It allowed me to move and lend support engineers to installation management and vice versa."[129]

However, in 2004, the Optical team was looking for further cost savings as the efficiencies gained from consolidation had dwindled. "I needed to find new ways to cut costs while maintaining the level of service"[130]. In 2004-2005, the director of Optical attempted to relocate 2nd tier support from its North American location, to India where the 1st tier support for Optical was operating. "There was already an optical support presence. I wanted to really leverage that team and add different resources for tier two. They were tier one but I wanted to give them more emergency recovery responsibility and also tier two support responsibility on a few products."[131] Such a strategy was dissonant with the "True 2-Tier Support Model" strategic category but it attempted to respond to the continued cost pressures faced by all support groups under the service profitability strategy.

[129] Support Director, interview
[130] Support Director, interview
[131] Support Director, interview

In 2004(2H), resources were expanded in hiring and training people in India and some of the workload of NA engineers was transferred to that location. The team was successful in fielding second tier support calls. However, in 2005(1H), the mandate was transferred to Turkey and the 2nd tier support activities in India were abandoned. "From a technical point of view it was the right thing to do, but from a business direction for optical, India was not the place to go. There were other growing locations such as Turkey for example. So I was going against the business strategic direction from a location perspective. I was building up India when that was not the right place." The implementation phase was completed from the perspective of fielding 2nd tier support calls; however, the efforts to link the element of strategy with cost reductions realized in India failed as Turkey became the competing location and eventually overtook the functions and responsibilities. "This is an area in which we were not successful. I was slightly ahead of the times; I was doing it too early when the business hadn't selected Turkey yet. I was kind of building up India where I had to really shift direction and change strategy. In the end it was the right thing to do but it was a question of location and timing"[132]. While the team was successfully launched and started taking customer calls, it was later disbanded that year.

Our study therefore uncovered seven cases of autonomous strategic behaviour, for which, we identified, five cases of emergent strategy and two cases of ephemeral autonomous strategic behaviour. In this Chapter (6), we have shown how each case presented dissonance with the Concept of Strategy and we have presented high level chronologies for each project. In the next Chapter (7), we present and discuss a model which explains how autonomous strategic behaviour may lead to emergent strategy and

[132] Support Director

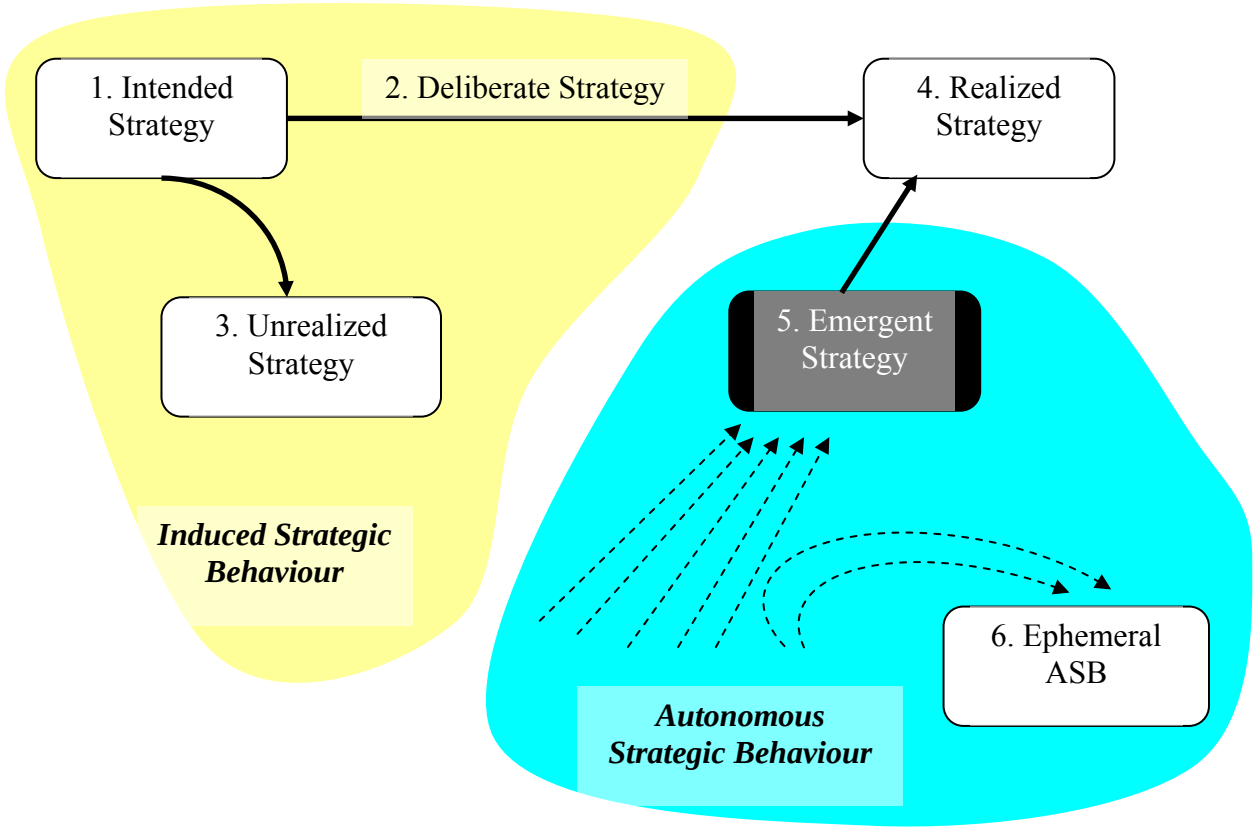
how failure points may produce cases of ephemeral autonomous strategic behaviour. In Chapter 8 we review the seven empirical cases and analyze them using the phases of the model.

CHAPTER VII: EMERGENT STRATEGY PROCESS MODEL & PATHS

7.1 RELATING MINTZBERG'S MODEL TO INDUCED AND AUTONOMOUS STRATEGIC BEHAVIOUR

Using the constructs from Bower-Burgelman's work, we may relate Mintzberg's model of strategy formation to two types of strategic behaviour: induced and autonomous (Burgelman, 1983a; 1983b). In Figure 16, we present the result of such a synthesis.

Figure 16: Relating Emergent Strategy and Autonomous Strategic Behaviour



Induced strategic behaviour originates from organizational actors pursuing goals and objectives which are consonant with the concept of strategy (cf. Burgelman, 1983b). Intended strategy (see "1" in Figure 16) is the set of plans and goals formulated by the organization (cf. Mintzberg & Waters, 1985) and as such it fits with the concept of induced behaviour. From intended strategy, plans which are realized (see "4") are termed deliberate strategy (see "2") while the remainder which never see fruition become unrealized strategy (see "3") (Mintzberg & Waters, 1985). Both deliberate strategy and unrealized strategy fit with the concept of induced behaviour because they originate from intended strategy. While it may be counterintuitive to characterize unrealized strategy as behaviour, we argue that it follows from Mintzberg's definition of unrealized strategy as plans which do not get implemented and the consideration of planning as a set of activities (Ansoff, 1965). Because formulation is a strategic activity (Andrews, 1970), it follows that unrealized strategy (i.e. plans not taken to fruition) is conceptually consistent with induced strategic behaviour.

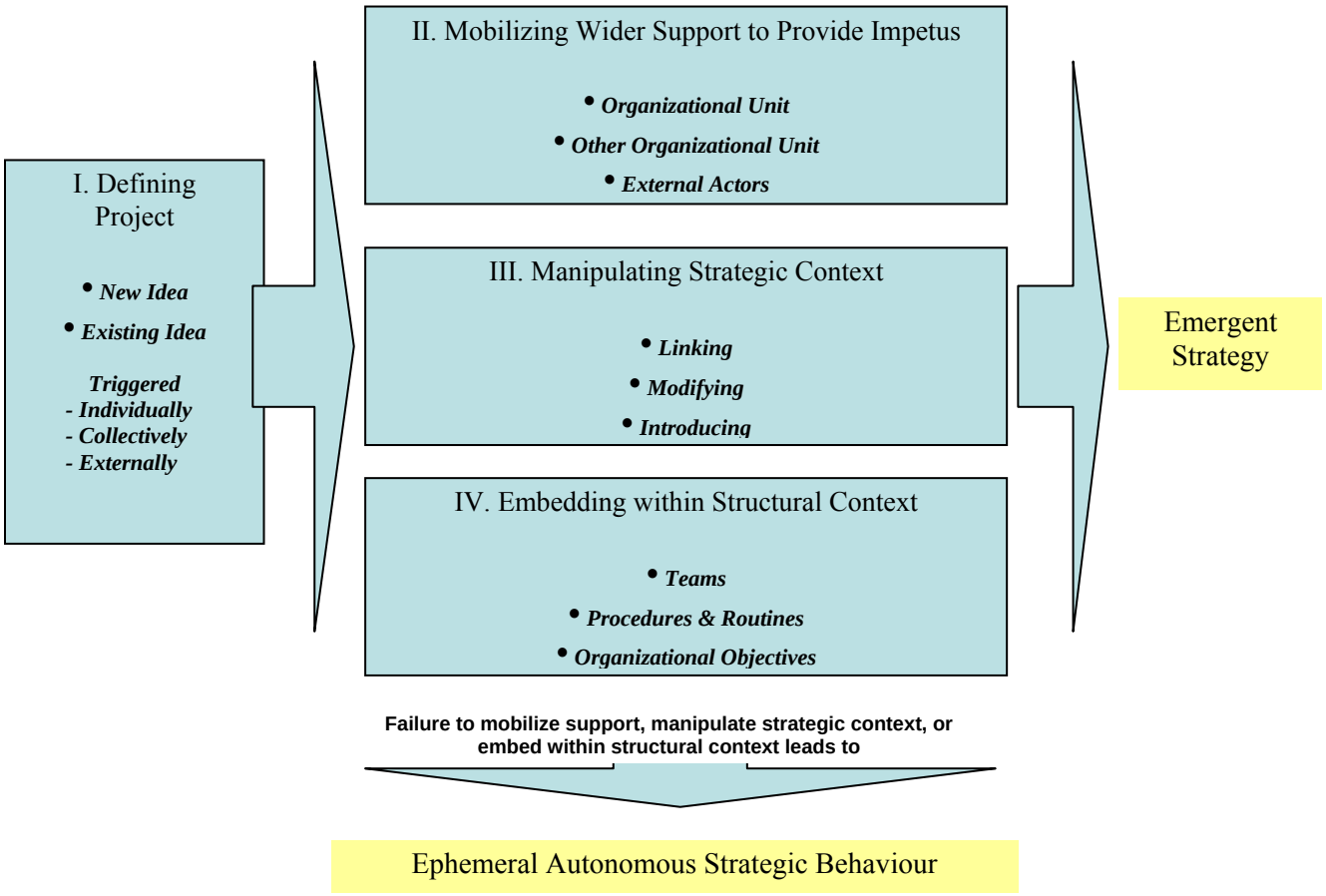
Autonomous strategic behaviour does not originate from organizational actors pursuing goals and objectives which are consonant with the concept of strategy (cf. Burgelman, 1983b). Indeed, this second type of behaviour features dissonance (Burgelman, 1983b) as organizational actors pursue their own local objectives which are not consonant with the concept of strategy. When autonomous behaviour endures and leads to activities which are patterned over time, it forms emergent strategy (see "5" in Figure 16), which is realized (see "4") in the absence of or despite intentions (Mintzberg & Waters, 1985). Finally, autonomous strategic behaviour which does not lead to patterned activity and may eventually submerge and disappear (Bunge, 2004), we term

'Ephemeral Autonomous Strategic Behaviour' (see "6"). In the following section we present our process model for emergent strategy.

7.2 OPENING THE BLACK-BOX: EMERGENT STRATEGY PROCESS MODEL

In this section, we present an overview of our model for emergent strategy (Figure 17).

Figure 17: Process Model for Emergent Strategy



In the next four sub-sections we discuss each of the components in detail: Defining the Project (Section 7.2.1), Mobilizing Wider Support to Provide Impetus

(Section 7.2.2), Manipulating Strategic Context (Section 7.2.3) and Embedding within Structural Context (Section 7.2.4). We conclude this theoretical presentation of our model with a discussion about failure points which lead to Ephemeral ASB (Section 7.2.5).

7.2.1 Defining the Project

Project definition is the technical-economic process of formulating new ideas which lead to an investment project (Bower, 1970). We extend Bower's definition by recognizing that organizations may also, in some cases, define projects by reformulating pre-existing ideas (cf. Cohen et al., 1972). Defining an Autonomous Strategic Project is the process of formulating new ideas and reformulating pre-existing ideas from prior projects into a novel and distinct project which is dissonant with the concept of strategy. While ideas may reside in an organizational actor's mind, we view a formulated idea as one which is explicitly described in the form of an email, presentation, paper, etc., as this facilitates operationalization and study. As our findings illustrate below, the defining of a project initially dissonant with the concept of strategy may be triggered (1) individually; (2) collectively; and/or (3) externally.

- By project it is meant a proposal "by which a firm makes discrete decisions to invest in order to achieve strategic objectives" (Bower, 1970: 19).
- By dissonant it is meant there is a gap between the firm's strategic intent formulated by top-level management, and the proposed strategic action, i.e. project, put forward by low and middle level management (Burgelman & Grove, 1996).
- By "triggering" of project definition it is meant an event, process or activity identified by organizational actors as causative of the formulation of the idea.

- By "individual" triggering of project definition it is meant that the event(s) leading to the formulation of an idea stemmed from the pursuit of a particular organizational member's local vision and the idea is attributed to that organizational member.
- By "collective" triggering of project definition it is meant that the event(s) leading to the formulation of an idea stemmed from collective dynamics involving dialogue and the construction of a local consensus and the idea is attributed to a recognized collectivity of organizational actors.
- By "external" triggering of project definition it is meant that the event(s) leading to the formulation of an idea stemmed primarily from interactions with an external organizational actor such as a supplier, partner or customer and the idea is attributed to the interactions with that external actor.

Burgelman (1983b: 63) argues that project definition "is triggered by a perceived discrepancy between strategic business objectives and existent physical plant capacity to attain these". Such a definition, while being very precise, may not be well suited to the study of organizations which do not have manufacturing operations as their primary function. Our model identifies three generalized "ideal type" sources of triggering for project definition.

Our first trigger is the ***individual***, a person involved in pursuing his/her local vision, attempting to accomplish what may be personal objectives, reflecting his/her preferences for the organization's future. We have found that the individual whose ideas act as a trigger for autonomous strategic behaviour may be at the operational level as the

Bower-Burgelman model would suggest (Bower, 1970; Burgelman, 1983a; 1983b; 1983c); or, alternatively, the individual whose ideas act as a trigger for autonomous strategic behaviour may be in a middle management function tasking operational personnel to pursue activities which advance the manager's vision. For example, the individual to whom the idea for Real Time Data Metrics (ES3) is attributed is a lower level technical expert; while the individual to whom the idea for Follow the Sun (ES5) is attributed is a director at TTC-SO who saw the opportunity to grant relief to his north American engineers from pager duties during off-hours. Our second trigger comes from the ***collective*** dynamics involved in achieving local consensus and pursuing local initiatives. This second trigger is linked to the concept of consensus as suggested by the literature (Mintzberg & Waters, 1985). For example, in the case of the Multilingual Call Center project (ES4), a meeting between the North American and CALA regional call center managers prompted the project's re-definition as the managers discussed their need for additional languages to serve their local customers. Finally our third trigger comes from ***external*** pressures exerted by local environments such as local customers, local partners and local suppliers. For example, it was a customer experiencing repetitive problems with its network which played a major role in triggering the development of a supportability feature on a data product (Supportability, ES1). The importance of this customer, combined with the technical challenge, prompted the director to assign people to look at ways to make this product easier to support: the customer's insistence to prevent future problems triggered the creation of a team to look at supportability issues. (In our study, our focal organization was a support organization and thus it had a direct interface with the customer, which may have facilitated autonomous strategic behaviour

of this type.) Table 35 lists the seven projects from the autonomous strategic behaviour stream and the types of triggers involved.

Table 35: Triggers vs. Projects

Autonomous Strategic Behaviour	Outcome	Trigger
ES1: Supportability	Emergent strategy	External: the idea to dedicate resources to developing supportability features originated in customer experiencing repetitive failures[133]
ES2: Automated Installed Base Tracking Tool	Emergent strategy	Individual: the idea to develop a tool to track equipment automatically originates from lab team manager looking to solve inventory issues[134]
ES3: Real Time Data Metrics	Emergent strategy	Individual: the idea to provide real-time data metrics by merging two existing databases originates from metric project manager[135]
ES4: Multilingual Call Center	Emergent strategy	Collective: the idea to provide multi-language support originates from meeting between regional call center managers[136]
ES5: Follow the Sun	Emergent strategy	Individual: the idea to leverage different time zones in supporting product with high outage frequency originates from director looking to provide off-hour pager relief for his engineers[137]
EASB1: Customer Advocacy	Ephemeral ASB	Individual: the idea to provide non-technical support to customers originates from director[138]
EASB2: Optical Off-Shoring	Ephemeral ASB	Individual: the idea to off-shore part of 2nd tier support to low-cost center in India originates from director[139]

We now proceed to discuss mobilizing wider support to provide impetus.

[133] Support Project Manager, interview
[134] Support Manager, interview
[135] Support Manager, interview
[136] Support Project Manager, interview
[137] Support Manager, interview
[138] Support Director, interview
[139] Support Director, interview

7.2.2 Mobilizing Wider Support to Provide Impetus

Another component of our model is the process of identifying and securing support for autonomous strategic projects in the form of resources such as funding allocations, or organizational members' time investment in the project from (1) the immediate organizational unit; (2) other organizational units; or (3) external actors, such as suppliers, partners and customers. Impetus (Bower, 1970) has been described as the force that moves a project toward funding, i.e. the willingness of a general manager to sponsor the project. Our study illustrates that an important step in sustaining autonomous strategic behaviour is the ability to mobilize support for projects by securing resources from various stakeholders. Induced behaviour, by definition, is sanctioned by the hierarchy as it originates from structural context which is put in place to implement the concept of strategy. Autonomous behaviour in contrast is vulnerable as it sometimes requires initiators to find alternative ways to support the project. Our model builds on Bower's approach by identifying a series of bases for support which may move the project toward funding and realization. However, our study nuances Bower's model by highlighting that impetus may not necessarily be provided solely from a general or middle manager, i.e. someone higher up in the organizational hierarchy, but also from pressure applied by lower lever organizational actors or even external actors who support a project. As an example, in the case of Supportability (ES1), a customer who had seen a supportability feature demonstrated on a product provided support for the project by pressuring the design team to include this feature in the product.

Projects born out of autonomous behaviour seek bases for support to overcome funding difficulties. Table 36 shows evidence of projects at TTC-SO launched from autonomous behaviour which experienced funding challenges.

Table 36: Autonomous Behaviour and Resources

Project	Funding Challenges
ES1: Supportability	The manager had difficulties keeping dedicated resources as they would get pulled by other manager and directors into emergency support work and away from the project. "The reason why we centralized it was to ensure that the individuals working on the program were dedicated and weren't pulled back into customer support emergencies so that we could launch a project and complete a project without jeopardizing conflicting priorities."[140]
ES1: Supportability	A Design team funded directly a supportability feature in order to protect the resources from being diverted in the later stages of the development cycle. "We supported their dotted line, and ran by their rules into their program reviews. He wanted us to be funded such that when the program got tight, in later development cycles, it would not have the DFS features getting cancelled."[141]
ES2: Automated Installed Base Tracking Tool	The project in its early stages got put on hold because of the lack of funding for the initiative. "The lab team had other priorities and the development was just too expensive for an internal tool."[142]
ES3: Real Time Data Metrics	The project manager was not part of IT. He was trying to get the IT team to migrate from one database onto another. He had to find another way to fund the project as IT would not fund it directly. "Yes, IT they were just content to let the business fund it and so I had to build the case to get the funding"[143]
ES4: Multilingual Call Center	The project manager was trying to convince his director to implement a second language in the call center but the funding was denied. "He (the director) thought it was very expensive and did not see why we would spend this money for an exception case"[144]
ES5: Follow the Sun	Our Study did not uncover funding difficulties for this project as it was initiated by a director with discretionary spending abilities.
EASB1: Customer Advocacy	As the resources became scarce at TTC-SO after the internet-bubble, team manager attempted to secure funding by generating revenues for customer advocates. "I had one customer interested in paying for a full customer advocate service, and another for half. Those two alone could have funded half of my entire team. In the end, because we could not generate the order code, we never got the funding and when the cuts came around, we were vulnerable."[145]
EASB2: Optical Off-Shoring	While this project was initiated by a director, it was later cancelled by an organizational actor in TTC-SO's hierarchy.

[140] Support Director, interview
[141] Support Director, interview
[142] Support Project Manager, interview
[143] Support Project Manager, interview
[144] Support Project Manager, interview
[145] Support Manager, interview

Support may be granted by various parties who come to see themselves as having a stake in the project's success. We identified three types of actors who granted some form of material support to autonomous behaviour: allocating funds to the projects, sometimes across organizational units (e.g. as when the Design organization of TTC allocated some of its funding to the Support organization TTC-SO – ES1); allocating fixed plant, equipment or other materials (e.g. as when the Supportability team was able to recycle an existing tracking tool from the Lab team – ES2); and/or allocating full time staff or some fraction of organizational actors' time to the project (e.g. as when the service revenue generating unit provided expertise to create a new order code for an initiative – EASB1).

In addition to identifying different forms of resources allocated to autonomous strategic behaviour, our study also identified three different types of actors who can do the allocating: 1) individuals within the organizational unit itself; 2) individuals within other interacting organizational units; and 3) individuals representing the unit's customers, suppliers or partners. Table 37 lists a number of examples of mobilizing wider support.

Table 37: Mobilizing Wider Support

Project	Interested Parties	Support Sought	Granted/Denied
ES1: Supportability	Individual within Organizational Unit	Human Resources Time: knowledge sharing from various product support teams about respective supportability tools developed in isolation. Knowledge sharing about procedures used by various product support teams	Granted
	Individual within Other Organizational Unit	Funding: direct funding of team to secure engineer's time during the development cycle of new product. Engineer is therefore dedicated to	Granted

		project and protected from shifting TTC-SO priorities and emergencies during life of project	
	Customer	Funding: customer requests a feature to design team. Decision to purchase equipment tied to inclusion of supportability feature on product	Granted
ES2: Automated Installed Base Tracking Tool	Individual within Organizational Unit	Fixed Plant, Equipment or other Materials: Supportability team recycles an existing tracking tool which had been developed by the lab team for internal purpose	Granted
	Individual within Other Organizational Unit	Human Resources Time: Warrantee team provides expertise to integrate tracking tool with two other processes: serial numbering and order management	Granted
ES3: Real Time Data Metrics	Individual within Organizational Unit	Funding: operational Managers requesting visibility to real time data, offer to provide time tracking code to metrics engineer to build reports. This allows for cost recovery of these activities.	Granted
	Individual within Other Organizational Unit	Funding: Information Systems team provides the technical expertise and funds the migration from old database to new database in order to provide real time metrics for support managers looking to have real time view of their support cases.	Granted
ES4: Multilingual Call Center	Individual within Other Organizational Unit	Human Resources Time: Regional call center manager engages his resources to produce a call flow in Spanish. CALA manager provides expertise to train local agents identified to answer customer calls and navigate the product flow in Spanish.	Granted
ES5: Follow the Sun	Individual within Organizational Unit	Human Resources Time: support engineers in TTC-SO embrace initiative and offer training to new regional teams as it reduces their off-hour workload. During several weeks, Australian manager job shadows North American engineer to learn procedures and tools to provide second level support.	Granted
EASB1: Customer Advocacy	Individual within Other Organizational Unit	Human Resources Time: asking service revenue generating unit's expertise to create an order code to capture customer revenue for the project.	Denied

	Customers	Funding: During focus group to evaluate customer willingness to pay for resources, two customers state that they are ready to pay for Customer Advocacy Services.	Granted
EASB2: Optical Off-Shoring	Individual within Other Organizational Unit	Human Resources Time: India regional manager embraces opportunity to increase responsibilities and begins training of his local staff to handle calls from customers.	Granted

We now proceed to discuss manipulating strategic context.

7.2.3 Manipulating Strategic Context

Yet another component of our model is the process of linking autonomous strategic projects conceptually and discursively with the concept of strategy. Bower-Burgelman (Burgelman, 1983b) define manipulation of strategic context as the efforts of middle managers in linking autonomous behaviour with the concept of strategy by introducing new strategic categories. Our model extends Bower-Burgelman's approach, illustrating how the manipulation of strategic context can occur by (1) constructing the project as consistent with existing strategic categories such that the concept of strategy does not change; (2) modifying (or deleting) existing strategic categories such that the concept of strategy changes in ways consistent with the project; or (3) introducing new strategic categories such that the concept of strategy changes in ways consistent with the project.

By definition, autonomous strategic activity features dissonance with the concept of strategy; and it is reasonable to assume that projects and initiatives which are dissonant with the organization's views about its past and present achievements may be more vulnerable to abandonment and cancellation than projects which are induced by and

aligned closely to the organization's planned objectives. Our study provides some, albeit inconclusive, evidence for this: only two of seventeen induced projects did not result in a realized pattern over time while two of seven autonomous projects were abandoned before resulting in a realized pattern.

The process of manipulating strategic context is therefore an important component of ensuring ongoing flows of resources to their projects, so managers attempt to gain acceptance from the organization by reducing the perceived dissonance of their projects with the concept of strategy. While our study found instances of the introduction of new strategic categories as Burgelman's (1983b) work suggests, we also uncovered instances in which project champions and other organizational members were able to manipulate strategic context by discursively linking their projects to existing categories or by modifying existing categories by interpreting them in ways that made the projects consonant with them.

Table 38 shows a list of discursive activities which took place for those projects identified as autonomous strategic behaviour at TTC-SO along with the strategic context changes. Successful strategic context changes are indicated as "Introducing", "Modifying" and "Linking" while other maneuvers which did not change the context are prefixed with "Attempt"

Table 38: Manipulating Strategic Context

Projects	Discursive Activities	Strategic Context Changes
ES1: Supportability	• Product Supportability is presented as standard way of providing carrier grade support Product Supportability presented as key activity in the overview of all support activities in the Leadership SPS[146] "Supportability is part of our four pillars for carrier grade products. Design Teams are provided with Supportability attributes which they must incorporate"[147]	• Introducing: **Product Supportability (**2001 1H) presented as required to achieve Carrier Grade. • Modifying: Product Supportability modified to become **Design for Supportability** (2003 2H)
ES2: Automated Installed Base Tracking Tool	• Automated Installed Base Tracking Tool is linked with projected added revenues from warrantee fees Projected revenues are detailed in project update as part of SPS package[148] " Warrantee was very interested in this initiative because they would be able to charge according to the number of components in the network"[149]	• Linking: **Service Profitability** (2006 1H)
ES3: Real Time Data Metrics	• Metrics manager builds a business case for the migration to new database by producing metrics and using internal customer feedback "I produced analysis to show how these metrics could make us more efficient, but they did not believe my data"[150] "Everyone was saying, we really need this: give us real time data because we if can't have visibility of our cases, we can't meet the 48 hour target."[151]	• Attempt – Linking: P**rocess Measurement** (2005 1H) • Linking: **48 Hour Case Closure** (2006 1H)
ES4: Multilingual Call Center	• Call center manager presents customer benefits in meetings with director and builds an argument for standardized multilingual call center approach	• Attempt - Linking: **CSAT** (2000 2H) • Linking: **Process & Tools Standardization**

[146] SPS, 2001
[147] SPS, 2001
[148] SPS, 2006
[149] Support Manager, interview
[150] Support Manager, interview
[151] Support Manager, interview

	"I presented the benefits for our customer, but the director felt this was an exception"[152] "Finally after pushing for each other's language for several weeks, the committee accepted and we implemented the tri-lingual call flow. I think it worked because instead of being an exception this could become a standard way of doing business: French for French customers, Spanish for Latin America and English for everyone."[153]	
ES5: Follow the Sun	• Project is described in project document as an initiative which improves employee satisfaction and customer satisfaction while it does not represent additional costs. "Follow the Sun presented as best practice"[154] "Pager costs have been reduced, overtime also, and we have improved on employee retention"[155] "The Australian customers were very happy to be able to deal with some local support staff"[156] "FTS in its full implementation should not require more heads than the current headcount distribution… in fact the expected employee retention increase should lower labor costs due to reduce hiring and training[157]	• Linking: FTS contributes to increased **CSAT** (2001 2H) and **ESAT** (2001 2H)
EASB1: Customer Advocacy	• Customer Advocacy project document outlines customer satisfaction feedback. Project manager uses quotes to link the initiative with CSAT. "Customer Advocacy presentation featuring customer quotes about satisfaction."[158] "I went to see my hierarchy and I showed them some of the customer quotes and those statements were very useful in explaining how this was an important initiative."[159]	• Attempt - Linking: Customer Advocacy team attempts to link itself with **CSAT** (2000 1H)
EASB2: Optical Off-Shoring	• Project was implemented before the manager was able to link to the concept of strategy. His objective was to link it with	• Attempt - Linking: Optical Off-Shoring team intended to link

[152] Support Project Manager, interview
[153] Support Project Manager, interview
[154] SPS, 2001
[155] SPS, 2001
[156] Support Manager, interview
[157] idem
[158] GIS SPS, 2002
[159] Support Director, interview
[160] Support Director, interview

	Cost Recovery by reducing his costs of operating the team while servicing a growing customer base. "I just went ahead with it because I was trying to reduce my costs while continuing to support a growing number of customer networks."[160]	

We now proceed to discuss embedding within structural context.

7.2.4 Embedding within Structural Context

The next component of our model is the process of embedding autonomous strategic projects within the organization's formal structure and functioning. Bower describes the notion of structural context as "the primary force shaping the content of projects and the provision of impetus leading to commitment" (Bower & Gilbert 2005: 443). Burgelman (1983b) defines the structural context's determination as "the broad envelope concept used to denote the various administrative mechanisms that corporate management can manipulate to change the perceived interests of the strategic actors in the organization." (Burgelman, 1983b: 65). He proposes a set of mechanism as this can occur by (1) creating new formal teams and appointing leaders; (2) establishing new formal procedures and routines; or (3) setting new formal objectives (cf. Burgelman, 1983b). Our model builds on his work to identify initiatives which led managers to embed their projects in the organization's structural context. Table 39 shows evidence of such initiatives.

Table 39: Embedding within the Structural Context

Projects	Evidence of Embedding within Structural Context
ES1: Supportability	• **Teams**: during TTC-SO's reorganization, a new central Supportability team is created[161] • **Procedures & routines**: a comprehensive master document containing all supportability features is created and accepted as the new standard for all products.[162] • **Objectives**: for the first time supportability attributes become part of design objectives under the novel category Design for Supportability[163]
ES2: Automated Installed Base Tracking Tool	• **Teams**: Supportability team taking ownership of initiative under new Vice-President • **Procedures & routines:** 30 new scripts created and ported across all products • **Objectives**: establishment of new warrantee revenues targets tied to project, in excess of $30 Millions[164]
ES3: Real Time Data Metrics	• **Teams**: project manager is moved under a new senior vice-president providing more visibility to initiative • **Procedures and routines**: new group reports created and access given to wider engineer base for them to produce ad-hoc work on hand reports[165] • **Objectives**: "48 hour Case Closure" targets for all cases of all severity
ES4: Call Center	• **Teams**: local call center hires and trains new bilingual operators • **Procedures & routines**: new bilingual call flow is documented. Procedure for call flow escalation is created and circulated to support engineers[166] • **Objectives**: targets for rate of lost calls are established and new metrics are developed to measure wait times and responsiveness of call center given novel multilingual service[167]
ES5: Follow the Sun	• **Teams**: 3 new regional teams created to process case hand-offs across various time zones • **Procedures & routines:** new hand-off procedures and escalation documents built for outages • **Objectives:** new metrics produced and communicated in best practice document to highlight volume of cases diverted to regional centers during off-hours
EASB1: Customer Advocacy	• **Teams**: new Customer Advocacy team created. 5 people in 2000 1H, 17 people in 2000 2H • **Procedures & routines**: customer introduction procedure for new customers, and new metrics to monitor "CSAT" are handled in novel systematic fashion by advocates • **Objectives**: new targets established to generate service revenues for premium services in order to fund project and ensure its long term viability

[161] SPS Slides, 2001
[162] Support Director, interview
[163] Support Director, interview
[164] Support Manager, interview
[165] SPS Slides, 2006
[166] Support Project Manager, interview
[167] Support Project Manager, interview

EASB2: Optical Off-Shoring	• **Teams**: Optical team in India trained on solving 2nd tier support cases • **Procedures & routines**: no evidence of changes in procedures and routines • **Objectives**: new cost targets established aiming to reduce costs in NA by transferring workload to a new low-cost center

We now proceed to discuss the failure points which lead to Ephemeral ASB.

7.2.5 Failure points: Ephemeral ASB

Our model, by identifying components involved in the transformation of autonomous strategic behaviour into emergent strategy, also identifies three distinct reasons for an autonomous project failing to endure into a realized pattern of action, i.e. for a project to become "ephemeral" autonomous strategic behaviour (EASB), related to each of the three components. While a failure to trigger autonomous strategic behaviour would also not lead to emergent strategy, we argue that such reasoning is trivial and does not add much value to the discussion at hand. Therefore we argue for three mechanisms of failure to which champions of autonomous strategic behaviour can address their attention in order to avoid: 1) failure to mobilize wider support; 2) failure to manipulate strategic context; and 3) failure to embed within the structural context.

Our study has uncovered two instances of ephemeral ASB. Table 40 lists the failure points identified for illustrative purpose. Failure occurred either because the organizational actors involved did not engage in the components we have identified in our model or because their attempts were unsuccessful.

Table 40: Ephemeral ASB Failure Points

Projects	Failure Points	Evidence of Failure
EASB1: Customer Advocacy	1) Mobilizing Wider Support to Provide Impetus	1) Team attempted to co-opt organizational unit which realizes revenue to obtain an order code. Despite efforts expanded, order code was never granted. [168]
	2) Manipulating Strategic Context	2) Team was not able to link the initiative with the targeted strategic category of "CSAT"
EASB2: Optical Off-Shoring to India	1) Mobilizing Wider Support to Provide Impetus	1) No support sought from parallel product groups[169]
	2) Manipulating Strategic Context	2) Initiative is cancelled before discursive activities are undertaken to reduce dissonance with established location of Center of Excellence in Turkey
	3) Embedding within Structural Context	3) Parallel structure built in Turkey by other product groups.[170]

For instance, in the case of customer advocacy, the team attempted to co-opt the organizational unit in charge of creating order codes for services to include customer advocacy as part of their standard product offering. This required the customer advocacy to sell internally the idea across intra-organizational boundaries. This attempt was never successful and it led to the inability to charge potential customers for the work performed. As workforce reductions came into play, the team was potentially vulnerable given its inability to demonstrate its fit with the overall service profitability objectives.

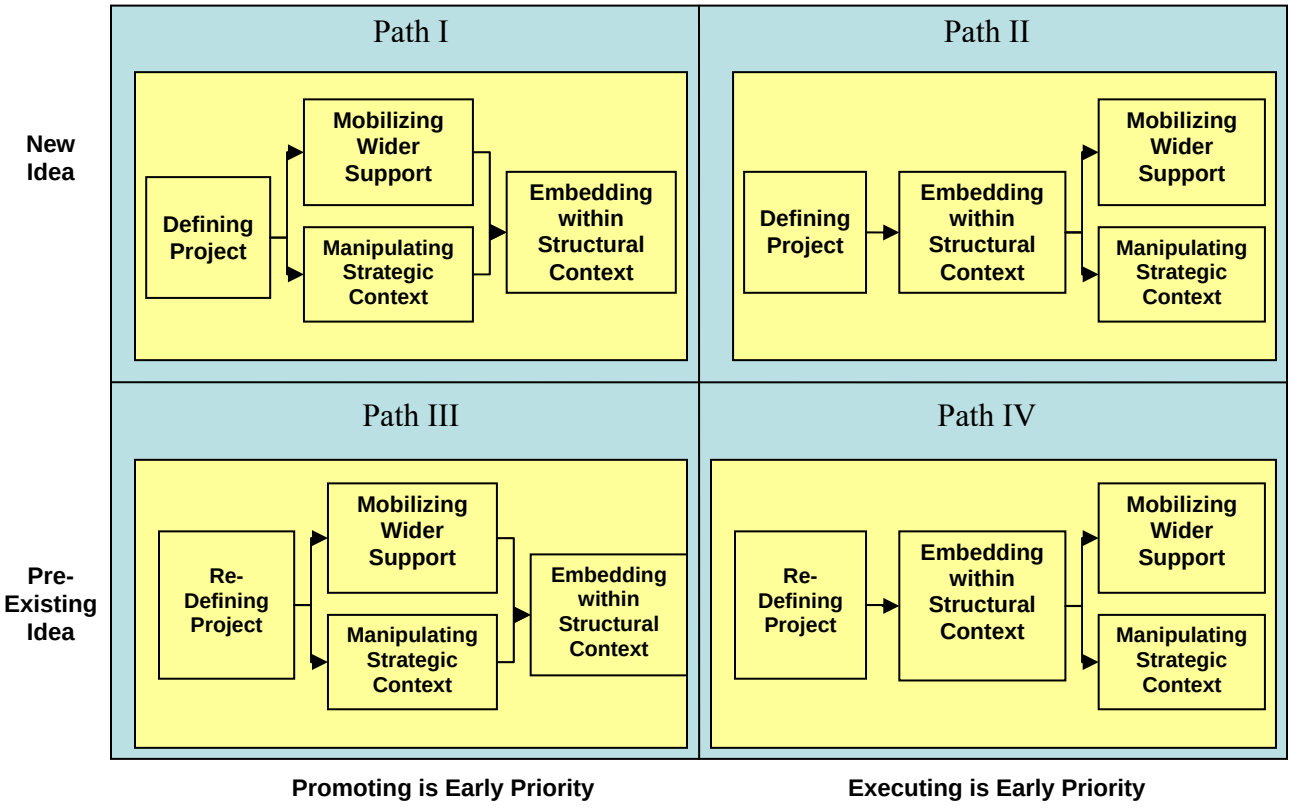
7.3 FROM AUTONOMOUS STRATEGIC BEHAVIOUR TO EMERGENT STRATEGY: PATHS

While our process model underscores the similarities among autonomous strategic behaviour projects by presenting four distinct components which were common to all

[168] Support Manager, interview
[169] idem
[170] idem

projects, our study also highlights important differences. In this section we discuss the various paths we uncovered and present possible differences in dynamics of autonomous strategic behaviour (Figure 18).

Figure 18: Paths



Our findings highlight differences along two dimensions: 1) defining a project around a novel idea versus defining a project by leveraging and reconstructing a pre-existing idea; and 2) promoting the project first versus acting first. Using these two dimensions reveals four "ideal type" paths for formation:

- By "Promoting is Early Priority" it is meant that actors involved in the autonomous behaviour will engage, early in the life of the project, in attempts to convince potential interested parties of its benefits. This will take the form of looking to secure resources from these parties and to present the project in terms

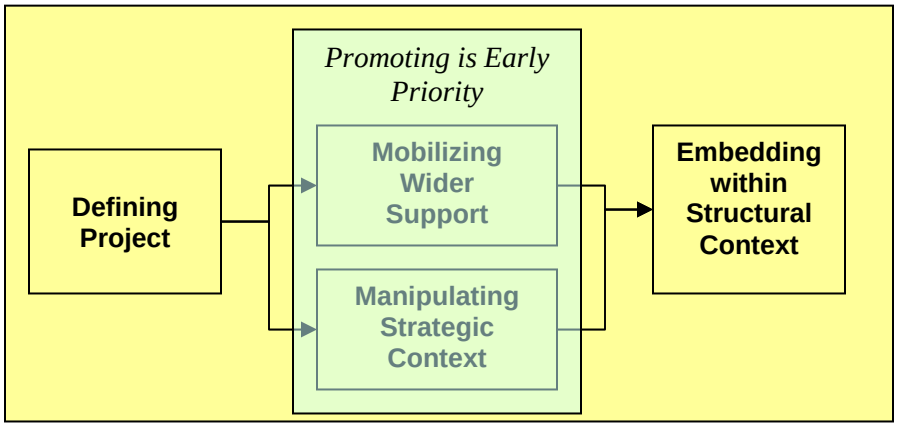
which may reduce its dissonance with the concept of strategy held by the organization. In other words, mobilization of wider support to provide impetus and manipulation of strategic context occur prior to embedding a given project in the organization's structural context.

- By "Executing is Early Priority" it is meant that actors involved in the autonomous behaviour will engage early, in the life of the project, in attempts to implement the project and make it concrete by making changes to formal aspects of the organization to reflect project activities and goals. In other words, embedding a given project in the organization's structural context occurs prior to mobilization of wider support to provide impetus and manipulation of strategic context.

7.3.1 Path I: New Idea - Promoting is Early Priority

The first path revealed by our study concerns a new idea which is promoted early during the autonomous strategic behaviour (Figure 19).

Figure 19: Path I

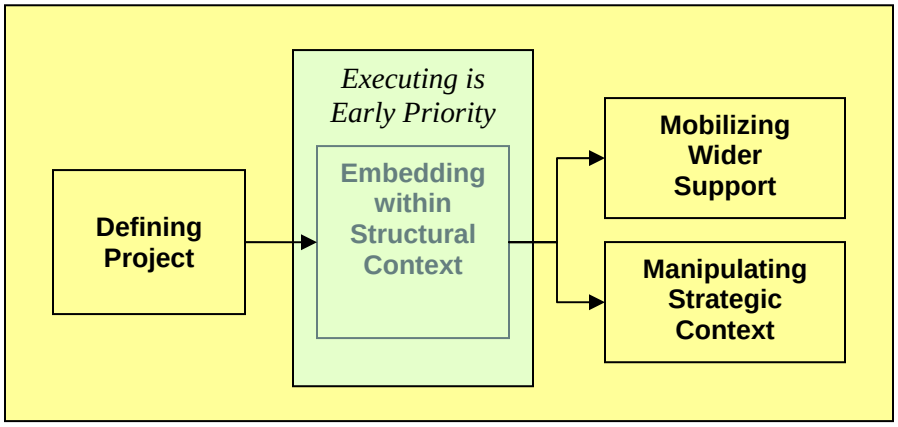


On this path, organizational actors define the project from a novel idea then, once the project is defined, its champions make early efforts to "promote" it. This involves mobilizing wider support by trying to secure resources from potential interested parties because the autonomous project is facing a challenge of having resources allocated to it. It also involves reducing the project's dissonance with the concept of strategy through discursive efforts to manipulate the strategic context. This combined set of activities, if successful, ensures the project has material support and is understood, at least locally, as having some link to the firm's concept of strategy before action is taken to embed it within the structural context, i.e. to execute the project by creating a new team and altering formal responsibilities, establishing procedures and routines, and/or setting new objectives.

7.3.2 Path II: New Idea - Executing is Early Priority

The second path revealed by our study concerns a new idea which is defined as a project and executed early during the autonomous strategic behaviour (Figure 20).

Figure 20: Path II



On this path, as with the previous one, organizational actors define the project from a novel idea. However, once the idea is formulated and the project is defined, the

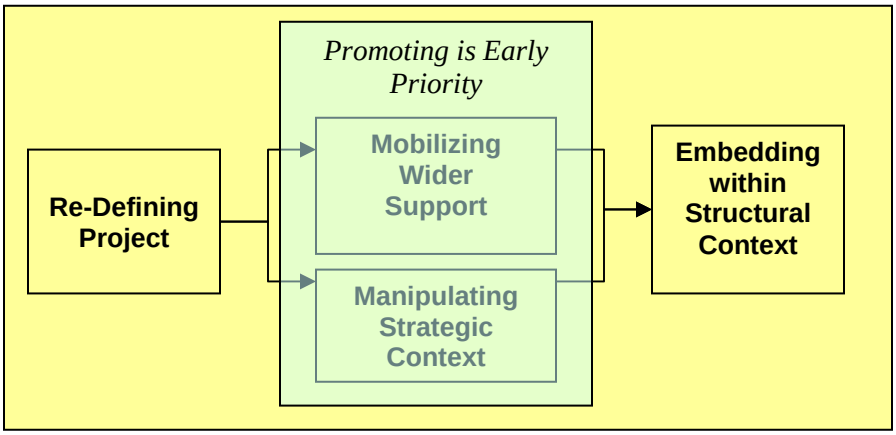
actors attempt to "execute" the project before seeking wider support or trying to justify the project in terms of the organization's current strategy. Not all actors can take this path, as it implies the ability to modify and amend organizational charts in order to link the initiative to existing or newly created teams and to task teams with the project's implementation, to establish procedures and routines to accomplish the work, and to formulate and communicate new objectives related to the project. As a consequence, we observed that this path is one taken by organizational actors, such as middle managers, who have immediate access to resources and have the ability to embed the project within the structural context prior to promoting it.

Once the autonomous project has been executed, i.e. put in place to some significant degree, organizational actors then attempt to promote and expand it by mobilizing wider support, i.e. securing more and longer term resource flows from other actors, and manipulating the strategic context to reduce the project's dissonance with the concept of strategy. Such ex-post promotion activities can benefit from partial results derived from the project's implementation. However, failure to promote the project successfully can mean that early structural changes made to accommodate the project may need to be undone.

7.3.3 Path III: Pre-Existing Idea - Promoting is Early Priority

The third path identified in our study concerns a pre-existing idea which is "recycled" to define a new project which is then promoted early during the autonomous strategic behaviour (Figure 21).

Figure 21: Path III

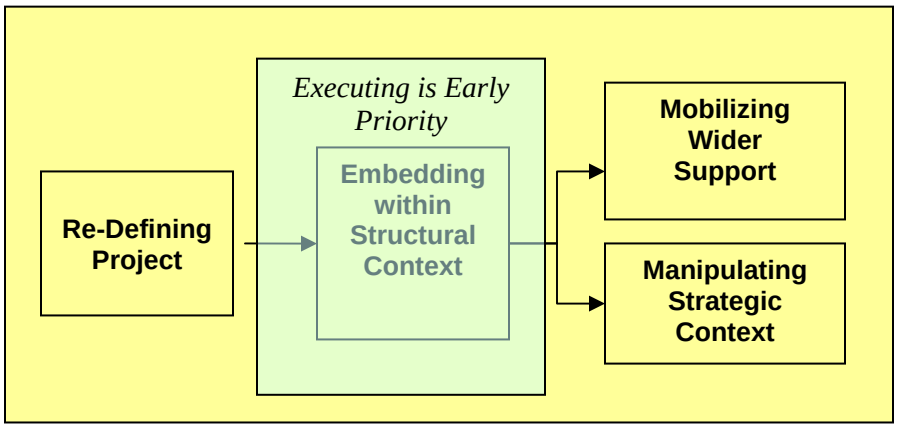


On this path, unlike the previous two, the project is in effect "re–defined" as the organizational actor recycles an idea which had been previously formulated in the organization. While in some instances this idea may be recycled from a project defined by another group or another individual, our data suggest that it is likely that it has been previously defined by the same individual. In some cases, a novel trigger which was not present at the time of original formulation of the idea, can play an important role in prompting an organizational actor to redefine a project which had previously failed to gain impetus. On this third path, the pre-existing idea can benefit from prior efforts to mobilize support and to manipulate strategic context when the idea is once again framed in similar terms but promoted in a more conducive context, i.e. the organizational context has evolved in ways favourable to the project since prior efforts to promote it. In other cases, the pre-existing idea can be framed and promoted differently than it was in prior efforts as when, for example, actors approach and try to mobilize support from actors beyond those approached in prior efforts, or actors link the project to the concept of strategy making novel discursive connections. This third path, similarly to the first one, features promoting activities early, i.e. prior to executing the project.

7.3.4 Path IV: Pre-Existing Idea - Executing is Early Priority

The fourth path identified in our study concerns a pre-existing idea which is executed early during the autonomous strategic behaviour (Figure 22).

Figure 22: Path IV



On this path, similar to the third one, the project is in effect "re-defined" as some actor "recycles" an idea which had been previously formulated in the organization. Once again, a novel trigger which was not present at the time of original formulation of the idea, can play an important role in prompting an organizational actor to redefine a project which had previously not gotten very far. However, on this path promotion of the project follows execution. Once again, projects stemming from recycled ideas can benefit from prior activities. For instance, lessons from partial implementation of earlier incarnations of the project may be incorporated into the new project; the same people may once again be tasked with the project, thus leveraging their past experience; or physical artefacts such as hardware or other tools from earlier incarnations of the project can also be re-used when implementing the project again. Once the project is executed, i.e. put in place to some significant degree, it is then promoted. Similar to the first path, these later

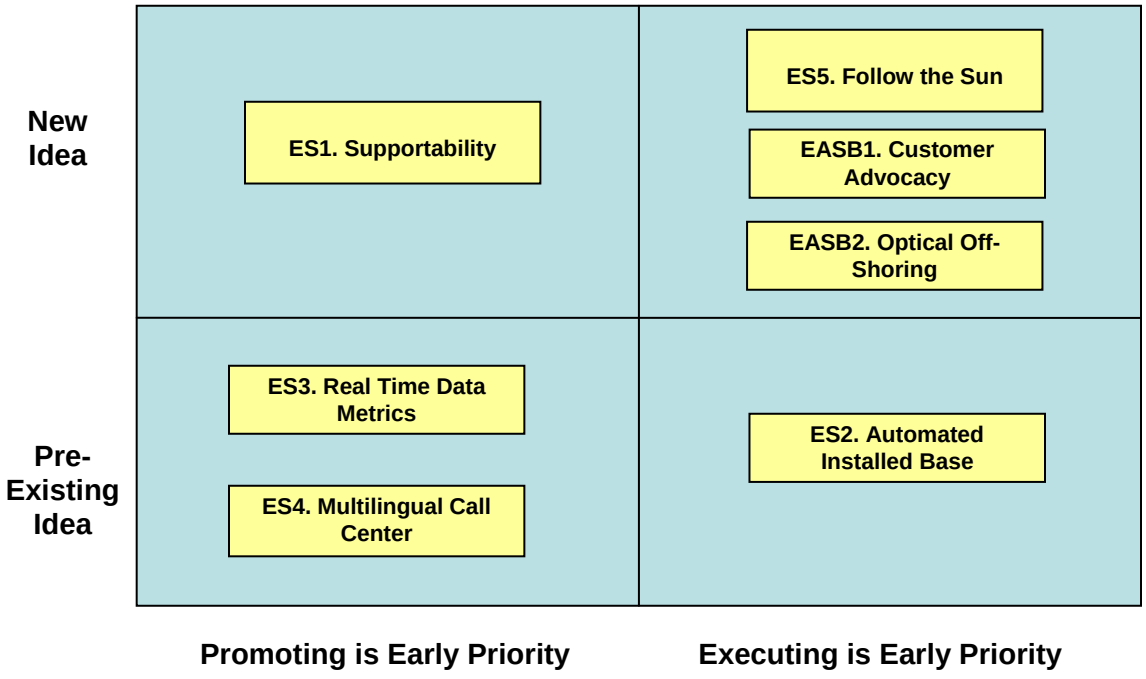
promotion activities can benefit from partial results derived from the project's implementation; but failure to promote the project successfully can mean that early structural changes made to accommodate the project may need to be undone.

We now proceed to illustrate and provide more evidence for our model in the next chapter where we describe in more details our empirical cases of autonomous strategic behaviour leading to emergent strategy and to ephemeral ASB.

CHAPTER VIII: EMPIRICAL CASES

In this chapter, we present a detailed account of the seven projects representing autonomous strategic behaviour when they were initiated (Figure 23), drawing upon and illustrating our process model and different paths. We begin by discussing the five projects which led to emergent strategy (Section 8.1) before moving to a discussion of the two projects which ended as ephemeral autonomous strategic behaviour (Section 8.2).

Figure 23: Empirical Cases



Among the projects which led to emergent strategy, we identified one project defined from a new idea which was promoted early (ES1: Supportability); one project defined from a new idea which was executed prior to significant efforts to promote it (ES5: Follow the Sun); two projects re-defined from a pre-existing idea which were promoted early (ES3: Real Time Data Metrics and ES4: Multilingual Call Center); and

one project re-defined from a pre-existing idea which was executed early (ES2: Automated Installed Base Tracking Tool). Notably, both projects which led to ephemeral ASB originated from novel ideas and were executed early. We now discuss the projects which contributed to emergent strategy.

8.1 PROJECTS LEADING TO EMERGENT STRATEGY

8.1.1 Supportability

The first project we present is Supportability which was defined from a new idea and promoted early (Figure 24).

Figure 24: Supportability

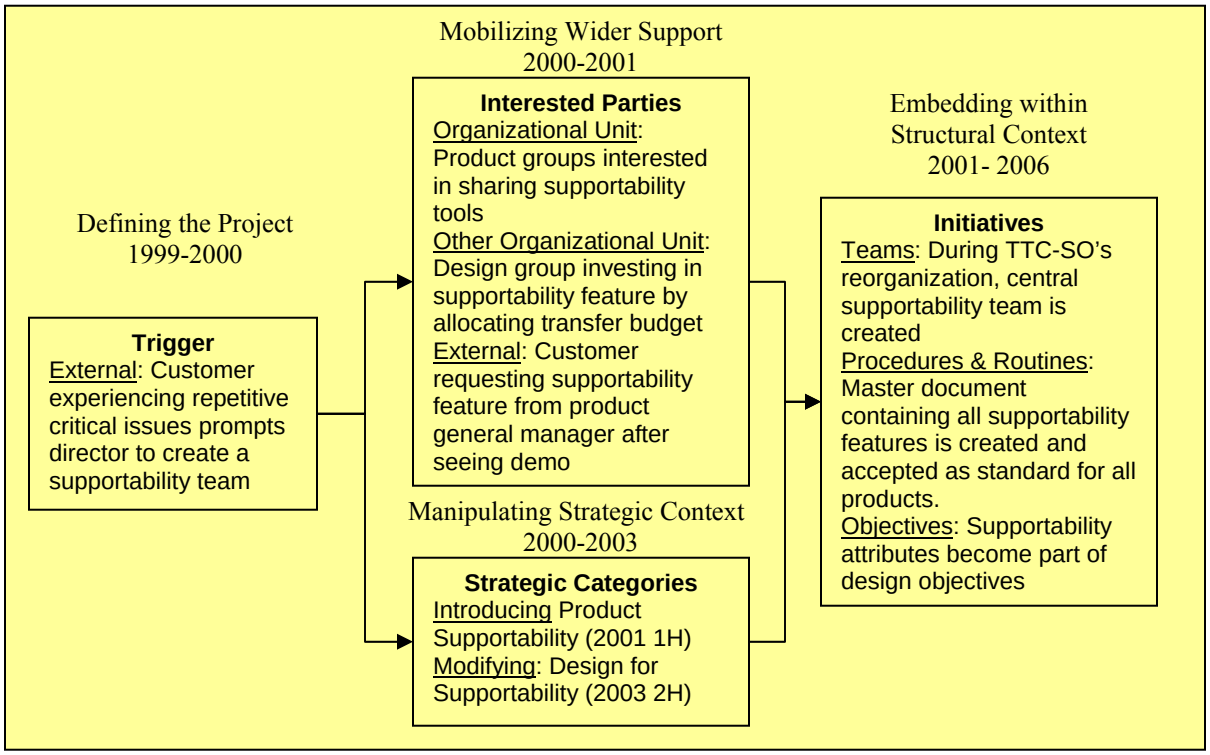


Table 41 provides evidence of each of the components of our model for the Supportability project.

Table 41: Evidence of Components in the Supportability Project

Components	Evidence
Defining the Project	**"**The first thing was really to tackle a couple of problems around network data collection and to launch such diagnostics of a certain product."[171] **"**I got involved around the year 1999-2000, where we formally as a support organization for the first time consciously centralized a set of employees to look at the supportability of a product"[172] **"**Supportability is really the degree at which a product lends itself to be supported. Over time we've defined attributes of a product which would benchmark at a level of supportability."[173]
Mobilizing Wider Support	"In one case we actually agreed with Design on a headcount which we would dedicate to supportability. This helped secure the implementation of the supportability features"[174] "We succeeded when we provided resources or when we secured design headcount early in the project"[175] "It is difficult to enforce anything. Often when you try to work top-down by using the hierarchy you will fail. Even if you have the buy-in of the executive there are a million good reasons to drop a requirement."[176] "So a lot of negotiating, you have to make believers of the design guys. And design guys build tools all the time; because they need stuff to debug and to monitor the box."[177] "So even if we were providing some of the resources to do it, we still needed business buy-in."[178]
Manipulating Strategic Context	"People started to look at ways to lower our costs; and part of lowering our costs in operations was definitely around lowering the cost of how we have to support the product… So we used to drive it into upper level awareness of supportability that we need this, and then it turned around into something that the more senior executives were looking for."[179] "Back then (before supportability became a requirement), it took a lot of business analysis to show operational improvements both for us and the customer."[180]

[171] Support Director, interview
[172] Support Manager, interview
[173] Support Manager, interview
[174] Support Manager, interview
[175] Support Manager, interview
[176] Support Manager, interview
[177] Support Manager, interview
[178] Support Director, interview
[179] Support Director, interview
[180] Support Director, interview
[181] SPS Slides, 2000
[182] SPS Slides, 2001
[183] SPS Slides, 2002

	Supportability Value Statement for Data Product produced and published[181] Supportability Project is now called Supportability Program[182] Supportability Strategy Document drafted including the following objective: - "DFS": Increase supportability for all future products - Exploit any "CSAT" and revenue opportunities[183]
Embedding within Structural Context	"Yes with the "DFS" it has more bite. And there are scorecards and the product has to have the features to perform well on the scorecard." "We have an initiative called common engineering. Finally TTC-SO is developing common engineering standards so that we can develop a tool and incorporate it in the standard and it can be used for all new products." [184] **"**We have gates were we review requirements and part of those gates talk about operability under which you would find supportability"[185] Formal organization chart published showing Supportability team with 17 people[186] Formal organizational chart published showing Supportability team with 59 people[187]

Defining the Project

A recurring customer problem acted as an external trigger for Supportability. "It started because we had a customer who experienced many issues with its network. Some nodes would go down and almost shut down. With this tool it was like having an engineer at every node doing constant monitoring."[188] In working with the customer to look into his issue in a systematic fashion, the Supportability project was initiated. A director at TTC-SO created a local group of three engineers which would be dedicated to looking for ways to improve the ease of supporting products for the rest of the organization by developing procedures and tools. "The first thing was really to tackle a couple of problems around network data collection and to launch diagnostics tools for a

[184] Support Manager, interview
[185] Support Manager, interview
[186] SPS Slides, 2001
[187] SPS Slides, 2003
[188] Support Manager, interview

certain product." While a mandate of supportability was given to the team, the content of the work to be done remained largely undefined. Many of the ideas which came from the first team members helped shape the content of the work. All these initiatives took place during the early stages of the project (1999-2000).

Mobilizing Wider Support to Provide Impetus

All three types of interested parties which we have identified in our process model were involved in mobilizing wider support to provide impetus for Supportability. Indeed, one of the first activities of the Supportability team was to develop a common set of standards describing the features which would be considered necessary for a product to be deemed supportable. In order to compose the document, the small, local Supportability team surveyed what had been accomplished by other product groups. What they found was that other technology groups had already developed supportability tools which could be reused across all TTC-SO groups, as said one member of the project, "I was in the carrier organization at the time, and over time you realize that Enterprise had also done something like this."[189] Leveraging the work which had been done in another product group, the team was able to increase the acceptance of the Supportability document. "We put together a specification document based on our collective experience using all the subject matter experts in the organization."[190]

In addition to providing impetus from within their own organizational unit, the team was able to involve other organizational units in the accomplishment of some strategic activities. One such unit was a design group for a new product being developed

[189] Support Director, interview
[190] Support Director, interview

by TTC. Design groups may or may not develop their own supportability features, and in some cases short term revenue generating features may take precedence over supportability features. This sometimes created conflict between the Supportability team's principle objective and the Design team's priorities, as noted by one Support Director: "And it really took a lot of work to convince people because when you are in there competing with revenue generating dollars, it is a very tough sell from a business perspective. Especially when they are looking at short term revenue gains versus long term operational savings. It took a lot of perseverance."[191] However, some design groups did request the early involvement of the Supportability team. In one such instance, the Design group provided the budget via a transfer between TTC-SO and TTC-Design in order to secure the resources which would work on developing the supportability features. This enabled the product owner from the Design organization to ensure that shifting priorities in TTC-SO would not jeopardize the project. "I felt was the best example of product development around supportability was when the general management of the product at the time solicited us to define the total supportability attributes that needed to be in the product. He funded me directly a set of development heads that would do a good part of the work."[192]

Finally Supportability was given impetus by an external party when an important customer requested a supportability feature on new product being developed. This came about because the Supportability team was able to build the feature into the product before it was be demonstrated to the customer. "Basically, what we did is that we went in and built a supportability feature on a product. And, again, they didn't want us involved,

[191] idem
[192] Support Director, interview

even though we were providing resources, and we had resistance all along the way, and then when they went and demoed it to the customer, one of the things they could demo at the time, was some of the supportability features which we were working on. And the customer, in the end, made a comment that "if we deploy this product that is something that we really want to have."[193] Once the feature was shown to the customer, it became a competitive differentiator, thus providing even more impetus.

Manipulating Strategic Context

In the case of Supportability, manipulations of strategic context by TTC-SO's middle management lead to two important changes in strategic categories:

- Strategic category introduction: "Product Supportability", 2001
- Strategic category modification: from "Product Supportability" to "Design for Supportability", 2003

The Supportability project started around 1999 with the mandate to make improvements by facilitating the ease of supporting a couple of key products which were experiencing network components failure. This initiative remained targeted to a few select products until 2001. The challenge facing the Supportability team was to protect the resources which were solicited to work on customer issues in times of high work levels. "The reason why we centralized it was to ensure that the individuals working on the program were dedicated and weren't pulled back into customer support emergencies so that we could launch a project and complete a project without jeopardizing conflicting priorities."[194] Early in the project, Supportability was dissonant with the "Cost Recovery"

[193] idem
[194] Support Director, interview

strategic category. "Back then (before supportability became a requirement)… it took a lot of business analysis to show operational improvements both for us and the customer."[195] However, raising awareness involved conducting meetings with top executives as the team expended significant efforts in positioning the project as strategic in order to continue to justify the use of resources which is some cases were accounted for as overhead and thus dissonant with "Cost Recovery". "People started to look at ways to lower our costs; and part of lowering our costs in operations was definitely around lowering the cost of how we have to support the product… So we used to drive it into upper level awareness of supportability that we need this, and then it turned around into something that the more senior executives were looking for in terms of a program"[196]

In parallel to these efforts, the project was positioned as a strategic initiative for the group in TTC-SO's SPS package.[197]. In 2001, strategic context manipulation efforts became successful as a new strategic category of "Product Supportability" is clearly documented in the 2001 Global Network Product Support SPS; as listed as one of the pillars of Carrier Grade Support. "Carrier Grade vendors must have the mechanisms in place to support the installed base and meet industry standards for responsiveness."[198] From this point on, "Product Supportability" remained a strategic category and part of the concept of strategy. In 2001, Supportability was no longer a collection of initiatives linked to a series of specific products as its mandate was broadened to encompass all products.

[195] Support Director, interview
[196] Support Director, interview
[197] 2000 2H SPS, 2001 1H SPS, 2001 2H SPS
[198] SPS 2001

However, supportability remained difficult to enforce as many features required the design team's approval. The challenge for the team became one of promoting future ease of support (i.e. product supportability feature) vs. the need to develop features which can generate immediate revenue opportunities (i.e. product revenue feature). "It is difficult to choose supportability over business features which may bring revenue. It's tricky. What I think we need to do to win this battle is to change the mindset of the engineers in Design."[199] Between 2002 and 2003, the team continued its efforts to manipulate strategic context by developing a set of standard attributes and by linking them with the larger set of attributes for product development. In 2003, these efforts were successful as a second change in strategic categories happened: "Product Supportability" was modified to "Design for Supportability**"**[200]. With this modification, the strategy encompassed not only TTC-SO's supportability initiatives but also established attributes for new products to be developed. With such a change, the strategy grew across the organization's boundaries as it featured applying requirements during product definition, including supportability in global design process and providing tools and consultancy to new product introduction agents. With these two changes in strategic context, the Supportability mandate evolved from being an ad-hoc product tools team to becoming a global support strategy.

Embedding within Structural Context

In the case of Supportability, the project benefited from the significant structural change at TTC-SO when the organization transitioned from a product-based

[199] Support Manager, interview
[200] SPS package 1H, 2003

organizational structure to a function-based one. Until 2000, the Supportability team had been reporting to one of the product directors. Given such a structure, supportability initiatives were deployed to a restricted number of products. With the new function-based organizational structure, Supportability was led by a director who reported to TTC-SO's Vice-President; the team gained more visibility and was able to engage more of the product lines at TTC. "As we became part of a larger organization through the centralization of the support function itself, we therefore started looking at more and more products and started to develop a set of attributes so that we could start judging products against each other."[201] As of 2001, the team was featured in the organizational charts and was given a headcount of 17 people. By centralizing Supportability, dissonance with "Service Standardization" was reduced as supportability services began to be applied to all products in the portfolio.

Two years later, in 2003, Supportability was further embedded in the structural context as routines, procedures and objectives were put in place as a result of the introduction of "Design for Supportability". Compliance with DFS attributes was measured and TTC-SO implemented scorecards to benchmark products against one another in terms of supportability features. "With the DFS, it has more bite. And there are scorecards and the product has to have the features to perform well on the scorecard." Furthermore, the attributes were given visibility by including them as part of the greater set of operability attributes which Design would implement. "We have gates where we review requirements and part of those gates talk about operability under which you would

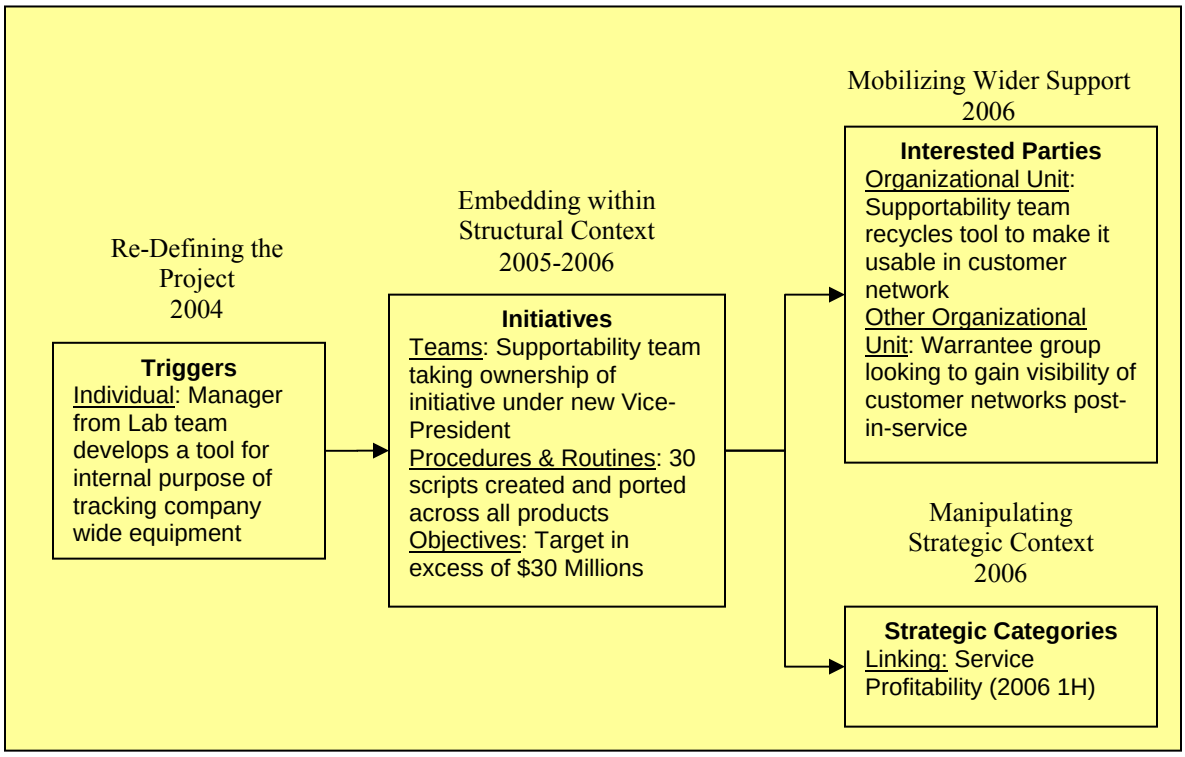
[201] Support Director, interview

find supportability"[202] As of 2003, organization charts documented the Supportability team as a central function under TTC-SO, with a headcount of 59 people.

8.1.2 Automated Installed Base Tracking Tool

The next project we present is Automated Installed Base Tracking Tool (AIBT) which was defined from a pre-existing idea and executed early (Figure 25).

Figure 25: Automated Installed Base Tracking Tool



[202] Support Director, interview

The following table provides evidence of each of the components of our model for the AIBT project.

Table 42: Evidence of Components in the Automated Installed Base Tracking Tool Project

Component	Evidence
Defining the Project	"As the company became smaller, people started to ask for a tool which would be global. This way an individual in Vancouver or Raleigh could find out quickly what equipment exactly could be available to him, in my lab."[203] "It was just too expensive to continue to develop and maintain, especially since it was used internally, so we kept the beta version for our purposes."[204]
Embedding within Structural Context	"30 scripts have been developed and the tool has been ported on all our product platforms."[205] "We are targeting over $30M in revenues and we are looking at increasing these numbers."[206]
Mobilizing Wider Support	"We took the tool that had been developed like skunk work if you will and tried to make it a little bit more common place and mainstream whereas we consider a tool to be one that is documented, supported in a release, and tested , etc; and so, we took some tools and formalized then."[207] "The Automated Installed Base project is collecting the data after the fact and matching it up against the serial number. And then the one in between is taking the data that we are getting, the order management data and making sure that we are tracking parts properly; All groups had different ways of doing this. Enterprise had their own way of doing it; Carrier basically didn't do it consistently. Enterprise had their own policy while carrier had no policy; it was negotiated on a case by case basis. So Warrantee has been the driver for it but it has many more benefits."[208]
Manipulating Strategic Context	Formulated targets for the project link it to "Service Profitability" as outlined in business case: 1: Increase service revenues from better quotes, exact warranty management and new professional services 2: Incremental product revenue from visibility to hardware and software lifecycle and network performance 3: Quality via better customer metrics 4: Cost reduction in contract management, entitlement and case opening Pilot client revenue generated and communicated to justify continued emphasis on project. Revenue growth for pilot in excess of $30 Millions

[203] Support Project Manager, interview
[204] Support Manager, interview
[205] Support Director, interview
[206] Support Director, interview
[207] Support Director, interview
[208] Support Manager, interview

Defining the Project

The project definition of AIBT was launched as TTC-SO recycled an existing idea from the Lab team. Indeed, a tool had been created by one of TTC-SO's labs as the various labs around the world were undergoing a consolidation initiative. "As the company became smaller, people started to ask for a tool which would be global. This way an individual in Vancouver or Raleigh could find out quickly what equipment exactly could be available to him, in my lab." [209] The Lab Consolidation project prompted the need to track the various components remotely. Prior to that, the equipment inventory was maintained in various spreadsheets which were sometimes inaccurate. In order to deal with this, the Lab group had built an automated tool to track the equipment. However, the focus of the project was internal and it did not lead to increased funding for the group[210]. In 2004, the continued pressure to rationalize costs was pervasive and given that context, after the tool was developed, it was put on the shelf for lack of additional funding. "It was just too expensive to continue to develop and maintain, especially since it was used internally, so we kept the beta version for our purposes."[211] When the project was re-launched in 2005-2006 the tool was recycled.

Embedding within Structural Context

In the case of the Automated Installed Base Tracking Tool, once the project was defined, the Supportability team began to work on developing the "scripts" (i.e. routines) to develop the tool which could be implemented within customer networks. In early 2006 several leaders left TTC-SO, including the one who had been pushing the AIBT project.

[209] Support Project Manager, interview
[210] Support Manager, interview
[211] Support Manager, interview

"The project stalled a little and we were not going anywhere because we had a lack of leadership and ownership for the project. Then, a new Vice-President came in and took over the ownership. Since then he has been able to provide continuity for it."[212] In terms of routines, the AIBT team developed more than 30 scripts which could be executed in order to implement the project across all of TTC-SO's products. This also provided the team the ability to experiment with targeted customers who were ready to implement it across their networks. Finally, an objective was set for the service revenue increase. It was linked to the initiative and was communicated to the organization's hierarchy to reflect the proposed implementation targets[213].

Mobilizing Wider Support to Provide Impetus

In the case of the Automated Installed Base Tracking Tool project, impetus was provided by two distinct interested parties: 1) the Supportability team provided resources to continue the development of the lab tool so it could be robust enough to be installed within the customer's network; 2) the Warrantee group helped manage the integration of various tracking tools to streamline and standardize the various warrantee processes in place.

While a version of the tool was first developed by the Lab team for internal purposes, it was the Supportability team, looking to track the customer's installed base automatically, which provided additional resources to further develop the tool. The work done internally by the Lab team provided the blueprint for the architecture of an external version of the tool which could be developed for customer networks. In order to put such

[212] Support Director, interview
[213] Corporate email, 2006

a tool in a customer network, it needed to be formalized and documented properly. "We took the tool that had been developed like skunk work if you will and tried to make it a little bit more common place and mainstream whereas we consider a tool to be one that is documented, supported in a release, and tested , etc; and so, we took some tools and formalized then."[214]

Second, while Automated Installed Base Tracking Tool was launched by TTC-SO to provide a view of customer networks which could then facilitate the support of such networks, the project was given further impetus by the service revenue implications for the Warrantee team. Indeed, the project benefited from the increased focus on trying to generate revenues from customer's networks as TTC-SO did not have the information required to properly bill its customers. Such an issue was directly linked to the mandate of another organization, the Service Profit and Loss organization, responsible for generating service revenue, via its need to manage warrantee. "The Automated Installed Base project is collecting the data after the fact and matching it up against the serial number. And then order management is taking the data that we are getting, and making sure that we are tracking parts properly; all the groups had different ways of doing this. Enterprise had their own way of doing it; carrier basically didn't do it consistently. Enterprise had their own policy while carrier had no policy; it was negotiated on a case by case basis. So warrantee has been the driver for it but it has many more benefits."[215] In a particular case, the ability to assess the number of nodes in a customer network by conducting a manual audit led to the ability to recoup several millions dollars in warrantee fees from the customer.

[214] Support Director, interview
[215] Support Manager, interview

Manipulating Strategic Context

In the case of the Automated Installed Base Tracking Tool, the initiative was successfully linked to an existing strategic category, "Service Profitability", as the project shifted its focus from developing a tool for internal tracking of equipment to developing a tool for customer networks. Indeed, once the project was reformulated in terms of developing a tool for customer networks, the team attempted to manipulate strategic context in order to tie it to the concept of strategy. This was done by linking the ability to track the number of nodes in a customer network with the generation of additional revenues which, it was argued, would lead to increasing customer network visibility as outlined in the 2006 business case document. Table 43 lists the Automated Installed Base objectives as they were described in the 2006 1H SPS document.

Table 43: Automated Installed Base Tracking Tool Targets[216]

Automated Installed Base Program: Revenue Generation
1: Increase Service Revenues from better quotes, exact warranty management and new professional services
2: Incremental product revenue from visibility to hardware and software lifecycle and network performance
3: Quality via better customer metrics
4: Cost Reduction in contract management, entitlement and case opening

As may be seen in the table above, the project manager deployed efforts to link the initiative to "Service Profitability". Indeed, targets 1 & 2 aim to increase revenues (service revenue & product revenue) while target 4 aims to achieve cost savings (contract management & support costs). In addition to linking with service profitability in its

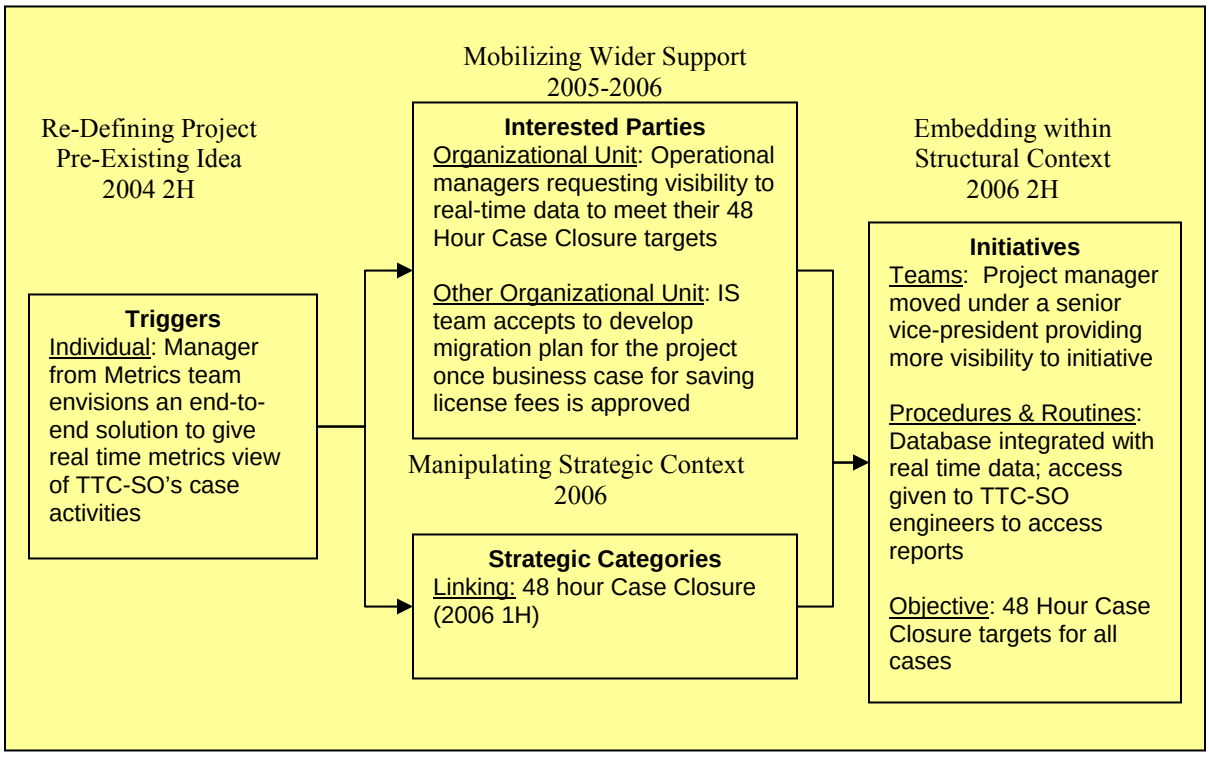
[216] SPS package, 2006 1H

project document, the team tested the tool at a few select customer sites and was able to demonstrate an increase in service revenue in excess of several million dollars.[217] This partial success was outlined in project documents to further strengthen the initiative's link with "Service Profitability". Thus, early embedding of the project in the structural context, by creating scripts which were installed at a customer site, enabled the team to generate results, which were used to link the initiative with the concept of strategy, via increased revenues and the "Service Profitability" category.

8.1.3 Real Time Data Metrics

The next project we present is the Real Time Data Metrics which was re-defined from a pre-existing idea and promoted early (Figure 26).

Figure 26: Real Time Data Metrics



[217] Project document, 2006-2007

The following table provides evidence of each of the components of our model for the Real Time Data Metrics project.

Table 44: Evidence of Components in the Real Time Data Metrics Project

Component	Evidence
Re-Defining the Project	"I can tell you about the project of strategic metrics (end-to-end). The goal is to have a view of all the work done by TTC-SO, not just pieces of it: Everybody wants it but it doesn't seem to be happening. I am almost there; I have been trying to do this for several years"[218] "You try to do your analytical what-if analysis in your Cognos world, which was great; but then you drill through to the details you need in business objects. They never brought in the full solution of Cognos; they never brought in the full solution of Business Objects. I don't know what they were planning. They expected you would drill from Cognos to Business Objects. But that was just a nightmare because now you had two data sources. I knew that would not work."[219] With the new Business Objects, as soon as a transaction is reported, it takes 5 minutes to replicate it into Business Objects; which is what we need for 48 hours."[220]
Mobilizing Wider Support	"Having more visibility helps push the initiative. It has been very useful. The thing that is most difficult is to get a scalable solution. No one thinks of scalability. One important change I see these days is time tracking. Now you need to provide a work code to get people to work on your problem. That means that time tracking metrics become strategic."[221] "What was going to happen is that Business Objects they were letting us use the new instance with licenses, free of charge, to migrate our users over. And then, after a certain period the old license would expire. If you want to keep the old environment, you have to buy new licenses for it. Huge cost; we are talking way more than the development cost. That was my nail in the coffin, kind of thing, to push it forward in order to get the funding. I told them "if you stay were you are, and you can't migrate over because you don't have all the functionality, you are going to get hit hard with licensing fees; and no support from Business Objects because they no longer support that version."[222]
Manipulating Strategic Context	"They were trying to figure out how to do the 48 hours and therefore did not have an immediate need for the real time data. Now it has become essential in meeting the 48 hour commitment. Now they are doing daily stuff with this data. And now you can sort of catch the problems and say "we are at hour 15

[218] Support Project Manager, interview
[219] Support Project Manager, interview
[220] idem
[221] Support Manager, interview
[222] Support Project Manager, interview

	on this case, what is going on? It is going to be due soon and it has not moved."[223]
Embedding within Structural Context	"I am now reporting directly to our senior VP. Having more visibility helps push initiative. It has been very useful."[224] "Operational managers are asking for real time visibility to their case load. The hierarchy really believes in the 48 hour case targets."[225] "Before, we used to have to build the reports for them. It was time consuming and we would only do it for people high up in the hierarchy. Now, most TTC-SO engineers can pull their own data so they can monitor case management closure in real time."[226]

Defining the Project

In the case of Real Time Data Metrics, the project was initiated by a Metrics project manager who was attempting to merge two reporting metrics systems into one single database which would allow data to be updated in near real time. In turn, it would provide the ability to produce real-time reports of TTC-SO's activities. "You have Business Objects[227] for this piece and Cognos[228] for this other piece; this is not going to work. And that is exactly what happened. You try to do your analytical what-if analysis in your Cognos world, which was great; but then you drill through to the details you need in business objects. They never brought in the full solution of Cognos; they never brought in the full solution of Business Objects. I don't know what they were planning. They expected you would drill from Cognos to Business Objects. But that was just a nightmare because now you had two data sources. I knew that would not work."[229] The autonomous strategic behaviour exhibited by the manager involved building business cases to justify

[223] Support Project Manager, interview
[224] Support Project Manager, interview
[225] Support Project Manager, interview
[226] Support Project Manager, interview
[227] Commercial software used for managing company data
[228] Commercial software used for managing company data
[229] Support Project Manager, interview

the migration to a single system. The solution would incur development costs for the IS group and these were to be offset by increased productivity and cost savings from having better data reports. From a metrics point of view, there was a misalignment between the dual database system and the need to monitor cases in real-time fashion. "With the new Business Objects as soon as a transaction is reported, it takes 5 minutes to replicate it into Business Objects; which is what we need for 48 hours."[230] While the project was reformulated to reflect the 48 hour real time data target, the project manager had been working on formulating this idea for several years prior to that. "Everybody wants it but it doesn't seem to be happening. I am almost there; I have been trying to do this for several years"[231]

Mobilizing Wider Support to Provide Impetus

In the case of Real Time Data Metrics, impetus was provided by managers inside the organization who were faced with the imperative to report accurately on their current case loads in real time fashion. Indeed, while the project manager had been trying to build the complete solution for a long time, the manager's request helped him continue to push the initiative.

The organization had long been geared towards meeting TL9000 metrics targets. These targets stated that critical problems needed to be resolved in 24 hours, major problems in 30 days and minor problems in 180 days. Towards the later part of 2005, a new operational target was established of resolving all cases within 48 hours and resolving outages in 30 minutes. "Having more visibility helps push the initiative. It has been very useful. The thing that is most difficult is to get a scalable solution. No one

[230] idem
[231] Support Project Manager, interview

thinks of scalability. One important change I see these days is time tracking. Now you need to provide a work code to get people to work on your problem. That means that time tracking metrics become strategic."[232] The need to track all time combined with the real time target established by the organization gave the project the impetus required. However, the team still needed to garner the support of the IS team in order to perform the migration to the new environment. As the IS group was hesitant to invest in the migration of the data towards a new real time platform, TTC-SO had to find funding for the initiative. The Metrics project manager was framing the benefits in terms of time savings and efficiency gains. However, during a meeting with the supplier of Business Object software, he was made aware that staying on the old platform would require the business to renew costly licensing fees. The business case was reframed in terms of cost savings resulting from a positive differential between new development costs and old licensing fees. "What was going to happen is that, Business Objects, they were letting us use the new instance with licenses, free of charge, to migrate our users over. And then, after a certain period the old license would expire. If you want to keep the old environment, you have to buy new licenses for it. Huge cost; we are talking way more than the development cost. That was my nail in the coffin, kind of thing, to push it forward in order to get the funding. I told them 'if you stay where you are, and you can't migrate over because you don't have all the functionality, you are going to get hit hard with licensing fees, and no support from Business Objects because they no longer support that version'".[233] From this point on, the project development costs were approved on the basis of the projected costs savings from the license fees.

[232] Support Manager, interview
[233] Support Project Manager, interview

Manipulating Strategic Context

In the case of Real Time Data Metrics, the project manager deployed efforts to establish the link with two existing strategic categories. The first manipulation was an attempt to link to the "Process Measurement" strategic category. Indeed, the project was framed in terms of the need to provide operational metrics which were in line with giving the information about case activity in real time fashion. However, at the time the business case was being built, the framing of the issue in terms of process measurement was premature. The second manipulation, which was successful, was to link the project to the "48 Hour Case Closure" strategic category. While the autonomous strategic behaviour had begun much earlier, the initiative benefited from the push for 48 hours. "At first, they were trying to figure out how to do the 48 hours and therefore did not have an immediate need for the real time data. Now it has become essential in meeting the 48 hour commitment. Now they are doing daily stuff with this data. And now you can sort of catch the problems and say 'we are at hour 15 on this case, what is going on? It is going to be due soon and it has not moved."[234] As the strategic context was manipulated, the project became consonant with the concept of strategy. It became a requirement to provide the data in real time fashion to measure case management with respect to the 48 hour strategic category.

Embedding within Structural Context

In the case of the Real Time Data Metrics strategy, a change in structural context helped the initiative get more visibility. The project manager who was in charge of the

[234] Support Project Manager, interview

initiative was previously reporting to a functional director inside TTC-SO. After a reorganization of the Tools & Process team, the manager changed group, reporting to a senior Vice-President. "I am now reporting directly to our senior VP. Having more visibility helps push the initiative. It has been very useful."[235]

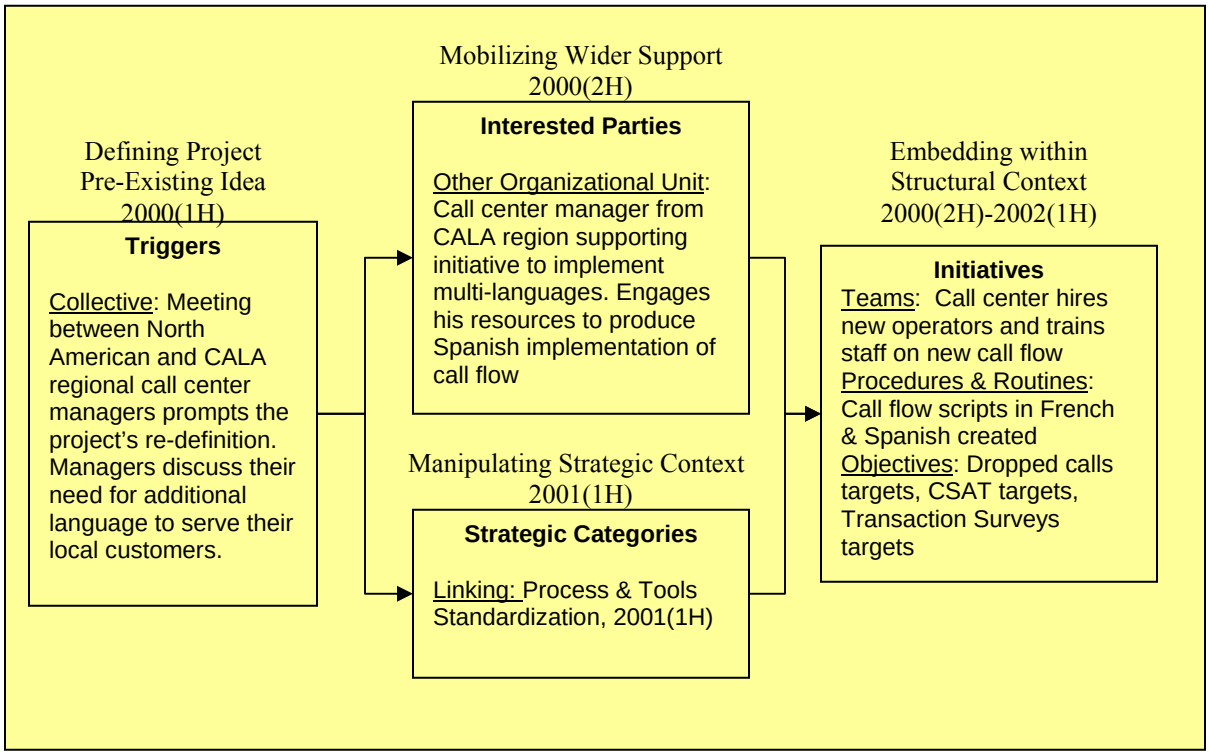
Once the database was updated with the real time data, organizational routines were changed such that engineers at TTC-SO were given direct access to the data in order to monitor their own cases in real-time fashion. "Before, we used to have to build the reports for them. It was time consuming and we would only do it for people high up in the hierarchy. Now, most TTC-SO engineers can pull their own data so they can monitor case management closure in real time."[236] This was in line with the objective of meeting the "48 Hour Case Closure" targets for all cases of all severities.

8.1.4 Multilingual Call Center

The next project we present is the Multilingual Call Center which was defined from a new idea and promoted early (Figure 27).

[235] Support Project Manager, interview
[236] Support Project Manager, interview

Figure 27: Multilingual Call Center



The following table provides evidence of each of the components of our model for the Multilingual Call Center project.

Table 45: Evidence of Components in the Multilingual Call Center Project

Component	Evidence
Defining the Project	"We started to discuss our need for our language to be implemented in our call center. We saw that we were living the same problem and that we could help each other solve it"[237]
Mobilizing Wider Support	"The director did not see the value in this. He thought it was very expensive and that this client was an exception. He did not see why we would make a change based on an exception."[238] "The other group was the French. They did not care about not having a French call so I got no help from them."[239] "So together with the CALA prime we started to promote our own language requirements during meetings. And we helped one another when the topic came around. Finally after pushing for each other's language for several weeks, the committee accepted and we implemented the tri-lingual call

[237] Support Project Manager, interview

	flow."[240]
Manipulating Strategic Context	"We argued this should be the standard way of doing business; finally after pushing for each other's language for several weeks, the committee accepted and we implemented the tri-lingual call flow. I think it worked because instead of being an exception this could become a standard way of doing business: French for French customers, Spanish for Latin America and English for everyone."[241] 2001 SPS Slide package includes multilingual call center[242] Call Flow document published and circulated to all TTC-SO engineers to promote as part of True 2-Tier support model[243]
Embedding within Structural Context	4 operators dedicated to French Call flow identified and trained by call center manager Call flow script developed in both languages for NA call center Metrics package produced containing targets for dropped customer calls, CSAT and Transaction Surveys

Defining the Project

In the case of the multi-language Call Center project, a collective trigger was involved in fostering the autonomous behaviour. Indeed, during a meeting of regional managers, the North American manager and the CALA (Caribbean and Latin America) manager discussed their need for a local language implementation. "We started to discuss our need for our language to be implemented in our call center. We saw that we were living the same problem and that we could help each other solve it"[244] Some of my customers could not understand why we did not have the ability to provide their technical staff with the option to navigate the call flow in French. "They told me they wanted the ability to call TTC-SO and get served in French. They did not understand why we were

[238] idem
[239] Support Project Manager, interview
[240] Support Project Manager, interview
[241] Support Project Manager, interview
[242] SPS Slides, 2001
[243] Project Document, 2001
[244] Support Project Manager, interview

not already providing a French interface for our clients."[245] This prompted him to look for ways to implement a duplicate call flow in French. The call center manager then proceeded to build a blueprint for how this could be achieved. It would require TTC-SO to translate the English phone menu and to create a French menu which could be accessed in parallel. It would also require to recruit French speaking operators and to train them to handle the call flow in this new language. The blueprint for accomplishing the initiative was presented to his group director. However, it did not garner enough support from the immediate hierarchy to get the go-ahead. "The director did not see the value in this. He thought it was very expensive and that this client was an exception. He did not see why we would make a change based on an exception."[246]

Mobilizing Wider Support to Provide Impetus

The initiative lay dormant for several months until the idea was recycled as new impetus was provided from another group within TTC-SO's organizational unit. Indeed, during the initial project definition, the North American call center manager was not able to get the support from his group director. His objective was to implement a call flow in French; however, without the support from his group, the project was dormant until impetus was given from the involvement of another call center manager in another geographical region. A preliminary attempt was made to convince the group in France to support the initiative. However, it did not bring the support he had envisioned. "The other group was the French. They did not care about not having a French call so I got no help

[245] Support Project Manager, interview
[246] idem

from them."[247] The local CALA call center manager was looking to implement a Spanish call flow as it had been requested by local customers. "So together with the CALA prime we started to promote our own language requirements during meetings. And we helped one another when the topic came around. Finally after pushing for each other's language for several weeks, the committee accepted and we implemented the tri-lingual call flow."[248] Therefore whereas each local manager had been unable to advance his vision in isolation, the joint request put forth by the CALA and North American managers gave new impetus to the project.

Manipulating Strategic Context

In the case of the Multilingual Call Center Strategy, several attempts were made to manipulate strategic context. As the two managers pushed their initiative for their respective language each faced difficulties selling the idea as it was viewed as an exception case by their respective hierarchies. The North American manager presented the idea to his hierarchy by using customer testimonials he had captured during a site visit, attempting to link the project to "CSAT"[249] However, the director was not convinced this initiative could benefit TTC-SO's entire portfolio of customers and viewed it as an exception. Another attempt, successful this time around, was made to manipulate the strategic context by linking the multilingual initiative with the "Process & Tools Standardization" strategic category in 2001(1H). This time, the initiative was presented as a standard process rather than an exception during meetings involving TTC-

[247] Support Project Manager, interview
[248] Support Project Manager, interview
[249] Support Project Manager, interview

SO's hierarchy and call center managers[250]. "We argued that this should the standard way of doing business; finally after pushing for each other's language for several weeks, the committee accepted and we implemented the trilingual call flow. I think it worked because instead of being an exception this could become a standard way of doing business: French for French customers, Spanish for Latin America and English for everyone."[251]

In order to further present the multilingual call center as a standard process at TTC-SO, efforts were made to document the initiative and communicate it to the rest of the organization. This can be seen in the 2001 SPS slides which feature the call center as one of the standard features of the support model. In addition to the SPS slides, the project manager produced an information document which was circulated to all TTC-SO engineers describing the call flow in both languages supported by the North American call center.[252]

Embedding within Structural Context

The Multilingual Call Center project was embedded within the structural context of TTC-SO when the call center hired new operators who could understand the call flow in French and who could help the customers navigate through the options. Furthermore, new routines for call flows were developed to handle the multiplicity of languages as the procedure to service customer requests reflected the change in the work flow. In addition to changes in teams and routines, TTC-SO implemented new metrics packages which would set targets for lost calls in all languages, for "CSAT" numbers and for

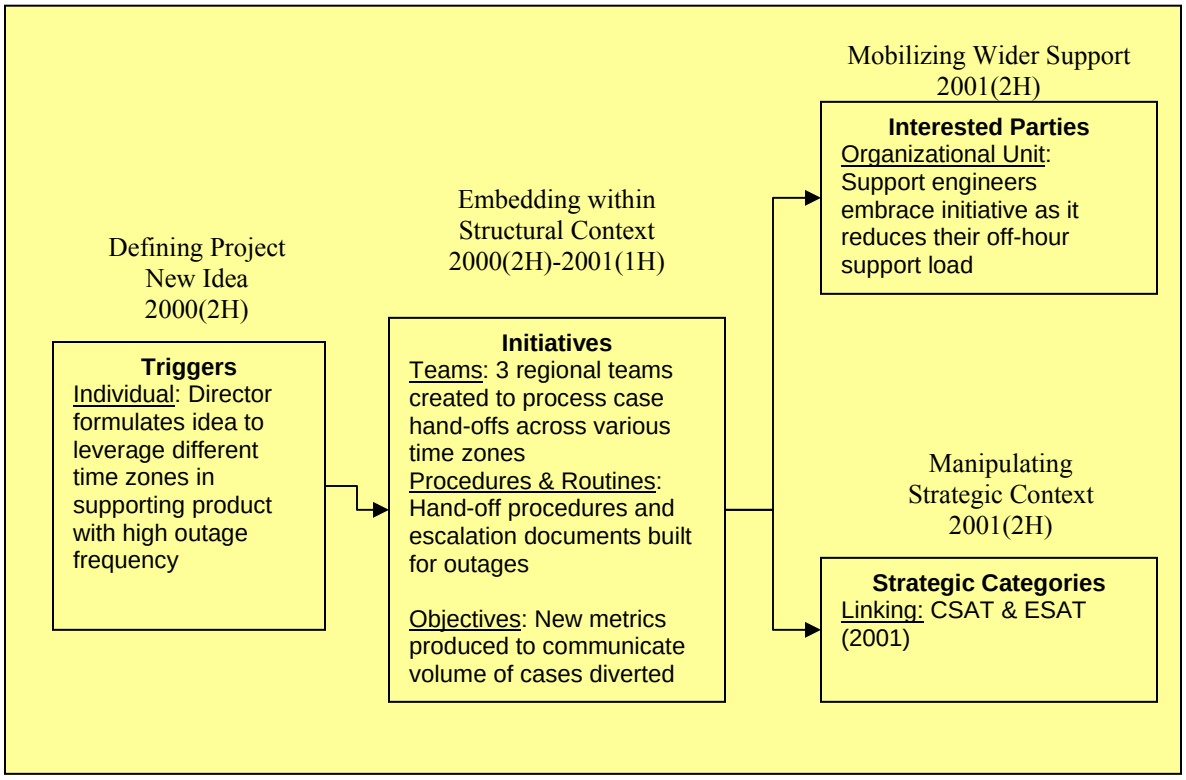
[250] Support Project Manager, interview
[251] Support Project Manager, interview
[252] Project Documents, 2001

Transactional Surveys (i.e. punctual feedback from customers navigating through the new multilingual call flows).

8.1.5 Follow the Sun

The next project we present is the Follow the Sun project which was defined from a new idea and was executed early (Figure 28).

Figure 28: Follow the Sun



The following table provides evidence of each of the components of our model for the Follow the Sun project.

Table 46: Evidence of Components in Follow the Sun Project

Component	Evidence
Defining the Project	TTC-SO group experiencing high outage rates overnight, looking to involve other support groups in different time zones to restore work-life balance for employees: "The product was definitely a picture of how not. It started with a bunch of people who were all expected to hit a date with a feature fund and then get it. There was no intent around quality. There was no documentation, nor all the standards that you need to actually deliver and run a product."[253] "It was a product that wasn't fully developed when we bought it. There had been a lot of R&D that needed to be put in to it.
Embedding within Structural Context	4 teams to handle case load. 3 new teams created in Australia, France and on the US West Coast.[254] Procedure created for transferring customer cases across regional teams[255] Procedure created to manage escalations of outages between regional teams and Center of Excellence[256] Metrics produced and communicated in Best Practice Document
Mobilizing Wider Support	"People were carrying pagers. It almost killed us. I mean, we were working an outage or two a night. So it became really a work-life balance issue."[257] "Pager costs have been reduced, overtime also, and we have improved on employee retention"[258] "Improves communication and information flow between the regions"[259] "I feel in control of the customer's problem and treated as part of the team"[260]
Manipulating Strategic Context	"Follow the Sun presented as best practice"[261] Impact on ESAT and CSAT. "FTS in its full implementation should not require more heads than the current headcount distribution… in fact the expected employee retention increase should lower labor costs due to reduce hiring and training[262] "Reduces the workload/pager outside of business hours and increases ESAT"[263]

[253] idem
[254] SPS Slides, 2000
[255] Project Documents, 2000
[256] Project Documents, 2000
[257] idem
[258] idem
[259] Support Manager, SPS Slides, 2001
[260] Support Manager, SPS Slides, 2001
[261] SPS Slides, 2001
[262] idem
[263] [263] Support Manager, SPS Slides, 2001

Defining the Project

In the case of Follow-the-Sun, the director, together with one of his managers, formulated an idea to alleviate the increasing time commitment demands on a local team which was fielding difficult support calls. "It was a product that wasn't fully developed when we bought it. There had been a lot of R&D that needed to be put in to it. I was a solid concept, and it was a very different space for TTC to be in. It was in service. Everything that we did was about selling the box, which means selling the services to different customers. We usually sell to Telcos, to the big guys. But we wanted to service the new IS environment, the ISPs, the service providers, the start-ups that wanted one box to service 20,000 subscribers within a large metropolitan area to start making money."[264] Given the uniqueness of the product segment which was being targeted, and given the fact it had been developed by a small entrepreneurial company which lacked the development standards for supportability at TTC, the product was unstable and had frequent failures. "The product was definitely a picture of how not to be. It started with a bunch of people who were all expected to hit a delivery date with a product idea. There was no intent around quality. There was no documentation, nor all the standards that you need to actually deliver and run a product."[265] This meant additional pressure for the support group and it lead to higher than average off hour calls. The engineers would be on pager rotation and sometimes they had to get involved in resolving problems in the middle of the night. The manager was very concerned by employee satisfaction numbers and was looking for a way to help them regain better work conditions. "People were

[264] Support Manager, interview
[265] idem

carrying pagers. It almost killed us. I mean, we were working an outage or two a night. So it became really a work-life balance issue."[266] In order to protect the work-life balance of the employees the manager and the director began implementing an initiative for which customer support cases could be transferred between teams dispersed in 4 time zones across the globe. This would enable 24/7 support and continuous work of client outages while reducing the involvement of local teams at night. The autonomous strategic behaviour was initiated by an individual director who was trying to solve a local problem and who developed a vision for how support could be conducted on a global scale by leveraging the presence of TTC-SO in several time zones.

Embedding within Structural Context

In the case of Follow the Sun, once the project was defined and the idea of transferring case load across regional teams was formulated, the director proceeded to hire and train people in the regions and began to embed the project within the structural context. "We just went ahead and did it. We did not ask permission because we felt this was the way to go." [267] The first regional team which was put into place was the Australian team. A senior manager was sent to North America for three months to job shadow the local team in order to begin knowledge transfer to the region. Once the three month period ended, the manager began to hire and train local Australian Support engineers to handle second tier-support cases. The second team to be launched was the French team and the third one was the US West Coast team. The objectives for the project were to divert the off-hour North American Eastern calls to the remaining three

[266] idem
[267] Support Manager, interview

teams and to, as a result, reduce the number of calls handled via the use of pagers. Table 47 shows metrics produced for the project as the various teams began their work.

Table 47: Metrics - Follow the Sun

Objectives	Metrics
Diverting to Australia	Live 14 weeks, handled 97 calls, contributed to 174 cases, solved 76 cases alone, routed 58 to design
Diverting to France	Live 4 weeks, handled 6 calls, contributed to 65 cases, solved 23 cases alone, routed 28 to design
Diverting to US West Coast	Live 2 days, handled 4 calls, contributed to 4 cases, solved 2 cases alone, routed 2 to design
Reduce Pager Rates	Off hour pager rate went from 57/month to 13/month

The team also embedded in structural context by creating a documenting a new "procedure", i.e. routine to manage handoffs between regional teams and for escalations[268] between regional teams and design. We now proceed to look at how the project was promoted as the team mobilized wider support and manipulated strategic context.

Mobilizing Wider Support to Provide Impetus

In the case of Follow the Sun, impetus was given to the project when it was so heartily embraced by members of the support organization working on a particular product: the manager was attempting to restore the work-life balance issues for the group of overworked engineers, and they appreciated and encouraged this project as a result.

When the initiative was first implemented, the director targeted the product which was experiencing high frequencies of outages. "We measure networks at the time on something we call scale 9000, which is the minutes that your box is down in the field; or

[268] Escalations are events during which the technical issue is passed from one group to another, more technical group. Escalations may go from support to design.

well the converse it was the minutes it stayed up. So "5 9's"[269] reliability means that it is down for 5 minutes per year. At that point when we moved the team, we were running something like 36 to 38 minutes of downtime per year. And that is for reported outages. It did not count all the stuff that people did not report, which is usually about double."[270] This meant that the team was required to carry pagers at night and in some cases investigate technical issues off-hours. This had a negative impact on the team which exhibited low employee satisfaction. With the launch of Follow the Sun, four teams were created in geographical regions which enabled to transfer customer cases across time zones and work in continuous fashion on problems without having to field every single call in one single time zone. The initiative was credited with having a direct impact on employee retention as documented in Follow the Sun's best practice project document: "Pager costs have been reduced, overtime also, and we have improved on employee retention"[271]

Manipulating Strategic Context

In the case of Follow the Sun, the team manipulated strategic context ex-post its implementation in two ways. First, they linked the initiative with superior employee satisfaction numbers ("ESAT"). The team argued that the project had a direct impact on the employee satisfaction. "It reduces pagers & emergency overtime drastically, removing stress on employees and their families. Employees keep the positive of

[269] 5 9's means 99.999% reliability. In other words the equipment is only down 1/100000 of the time
[270] Support Manager, interview
[271] Project Document, 2001

customer service without many of the negative elements which lead to them moving to other jobs. Extended stay at TTC-SO reduces hiring, training and loss of productivity."[272]

Second, they linked the initiative with superior customer satisfaction numbers ("CSAT"): The team made the argument that the project contributed to higher customer satisfaction numbers. "Outage recovery time was an issue and pager call back time added to recovery delays. The customers could not accept TL9000 responsiveness standards and could not live with 8am to 6pm business hours. The customers are very demanding, this gives them the flexibility to ensure their business issues get the focus they need."[273] Furthermore, the team was able to produce metrics showing case closure improvements. "These guys were here until 7 p.m. every night. The nice thing in the summer is that they move closer to us. Australia's time zone moves closer to us. And we really worked hard at documenting the cases. The case quality of what they got was pretty good. And we were the champion for the customer. We didn't forget that we worked for them. We didn't do the wrong thing, but we made sure that the customer pain was very visible to the executives through data. And so it was a data driven exercise. I could talk about minutes of downtime, I could talk about case volume; I could talk about call volume per engineer."[274]

We now proceed to discuss cases of ephemeral autonomous strategic behaviour

[272] Best Practice Document, 2001
[273] Best Practice Document, 2001
[274] Support Manager, interview

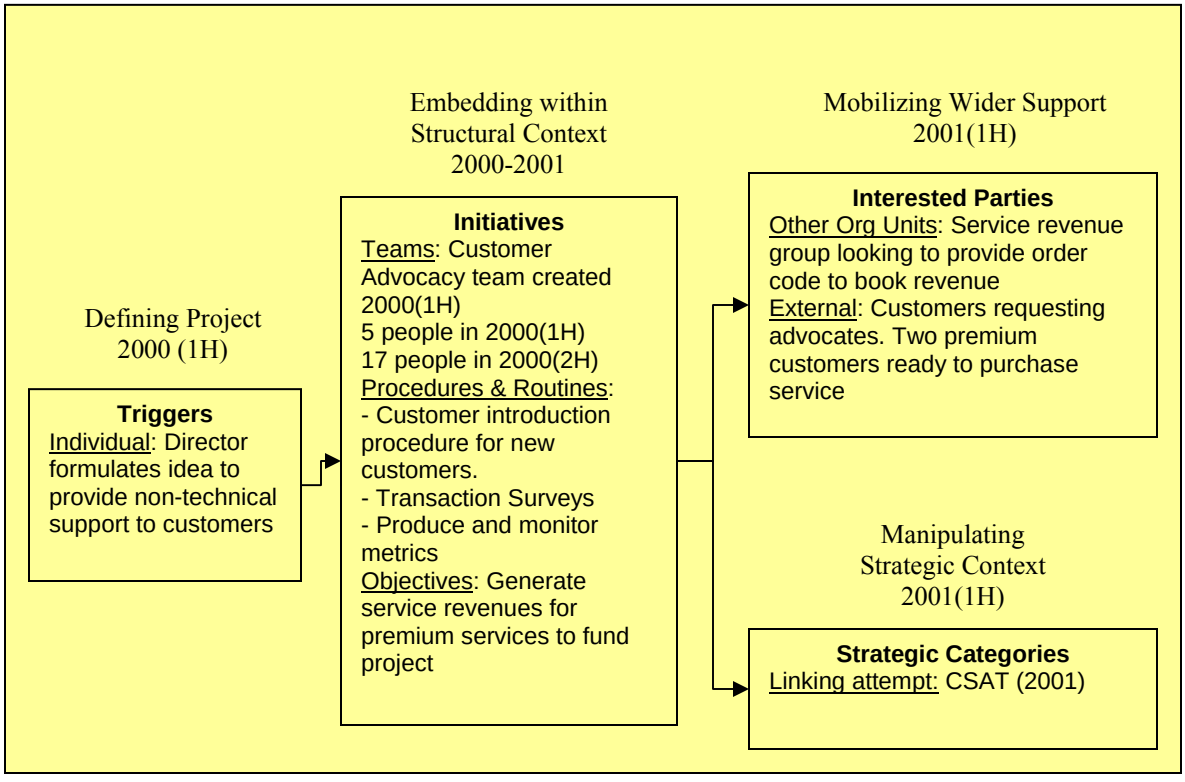
8.2 CASES OF EPHEMERAL AUTONOMOUS STRATEGIC BEHAVIOUR

Our study uncovered two cases of ephemeral autonomous strategic behaviour. In both instances, the projects followed the same path: they were defined from a novel idea and were executed before being promoted more widely. In this section we discuss the components of our process model for these projects along with the failure points which resulted in these instances of autonomous strategic behaviour becoming "ephemeral".

8.2.1 Customer Advocacy

The first project which ultimately became ephemeral ASB is Customer Advocacy, which was defined from a new idea and executed first (Figure 29).

Figure 29: Customer Advocacy



Defining the Project

In the case of Customer Advocacy, the project was triggered by an individual group director who decided to change the way support was provided to customers for non-technical issues.[275] His TTC-SO team was focused on solving technical issues yet it was also fielding many non technical requests such as queries about documentation, customer migration issues and more. While TTC had a sales team which was usually responsible for handling such requests, the director felt that these tasks could be performed better by people inside TTC-SO. His first initiative was to task one of his senior managers with the creation of the group. While he was clear about which problem he was targeting with Customer Advocacy, he left the specific implementation details to be decided upon by his senior manager. "The director asked me to build a Customer Advocacy team, but he did not tell me what it was."[276] As the manager defined the project in more detail, it came to have key features which made it dissonant with the prevailing concept of strategy (as presented in detail in Chapter Six). First, the project was dissonant with "Cost Recovery" because customer advocates operated from the support group, which meant that they would have to find a way to generate their own revenues since the group could not assign all of their non technical support time on case management issues; second, it was dissonant with "Service Standardization", because the service was only available to certain products, thus making it non-standard.

[275] Support Director, interview
[276] Support Manager, interview

Embedding within Structural Context

The project of Customer Advocacy was executed locally before being more widely promoted. During the first phase of the project, the manager in charge of the project built a team of five customer advocates focused on a single product.[277] The goal was to quickly establish a presence on key accounts in order to begin to show positive results to promote the initiative. Early success combined with a favorable context of growth at TTC-SO enabled the team to continue to increase the human resources in their organizational unit dedicated to Customer Advocacy. By the beginning of 2001, the team had grown to 17 heads and was focused on two main products.

In terms of procedures and rules, the project also became embedded in structural context through the implementation of several routines in relation to customer advocacy work. These included "Customer Introductions" which involved a guided tour of all TTC-SO processes and technical resources to familiarize the customer with the services available to them; "Transaction Surveys" which involved tracking and compiling punctual customer feedback; and "Metrics Packages" which involved producing and monitoring key TTC-SO metrics.

Finally, in terms of objectives, the Customer Advocacy team was mandated to generate service revenues from selling advocacy services to premium customers. This approach aimed to cover the cost associated with maintaining a customer advocacy team in the long run.

We now turn our attention to promotion attempts which took place during the project as the team tried to mobilize wider support.

[277] Organizational Charts, 2000

Mobilizing Wider Support to Provide Impetus

In the case of Customer Advocacy, support from two types of interested parties was mobilized for the project. Internally, organizational members began to request the help of customer advocates as the function provided by the team gained support from TTC-SO's engineers and managers. "The customer advocates were very useful. I remember they would take a lot of the problems away from my staff. All the things we did not want to deal with they would take the lead on. My engineers could focus on solving technical problems."[278] Support managers who were dealing with large volume of non-technical support requests began to ask the customer advocacy team for their help in dealing with key accounts. This prompted the team manager to hire more customer advocates because it provided a justification for increasing the size of the team. Within a year, the team increased the human resources allocated to it from 5 people to 17 people.[279] Customer Advocacy's growth was fuelled by the feedback provided by the customers. Some customers indicated to TTC-SO they would be ready to pay for the service. "We had held a series a sessions with our CA customers. We had one customer who wanted to pay for a dedicated CA and another who was ready to pay for half a person. We established the price because one of our customers told us that a competitor was charging that price for a similar service. This would have recovered the cost for half my resources with these two customers only."[280] Thus, the customer provided a potential avenue for wider support for the initiative. Second, the team attempted to garner the support of another organizational unit: the Service Profit and Loss group, which was responsible for generating service revenues. This unit managed the service packages; it

[278] Support Manager, interview
[279] SPS package, 2000
[280] Support Director, interview

was responsible for defining the service level agreements and the price structure associated with customer support and other services. While mobilizing successfully this the Service Profit and Loss group would have given the customer advocacy team the means to link its project costs to service revenues, the group never agreed to create an "order code" for Customer Advocacy, which allows customers to purchase the service using the code and the provider of the service inside TTC to recognize the revenue. Indeed, being able to sell the service to the two customers who had signaled their interest would have secured the ability for cost recovery and it could have justified yet more growth. However, the Service Profit and Loss did not agree to partner with TTC-SO in generating revenue via this initiative and they never created an order code. "We had several meetings with them and presented our vision but they wanted more. We sent them information and continued to work with them for months. In the end, they felt our offering was not in line with the rest of the service portfolio and they never created the order code. That was a major blow for the team as we never recovered our costs."[281] Therefore while the service profit and loss group was interested in the Customer Advocacy initiative, their support stopped short of providing the means to secure the resources via billing the customers for the premium service.

Manipulating Strategic Context

In the case of Customer Advocacy, the team attempted to link itself with the "CSAT" strategic category. As early as 2000, the team articulated its objective to fund itself by generating additional revenues for delivering its premium service.[282] In order to

[281] Support Director, interview
[282] SPS package, 1999.

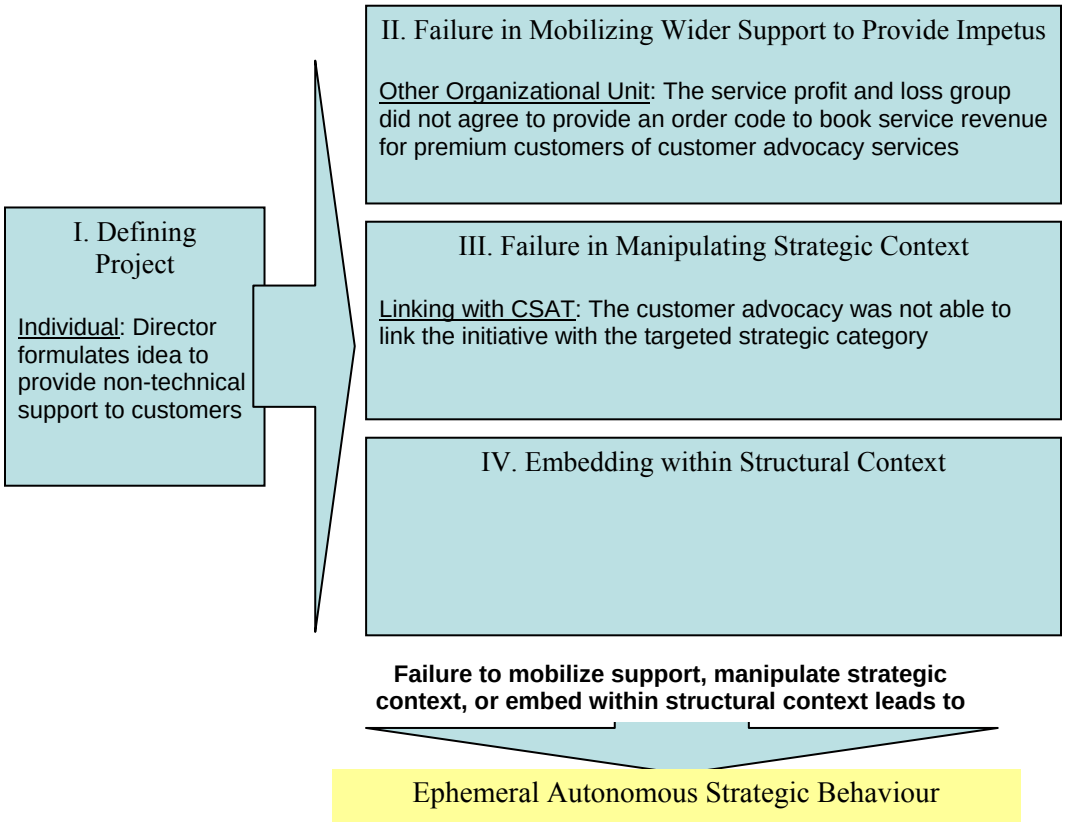
accomplish this, the team held discussions with customers already receiving the service for free to gauge their interest in purchasing the service; this approach could help to ensure that they continued to receive and benefit from the services of their customer advocate amidst TTC-SO workforce reduction uncertainties. The meetings resulted in two customers indicating an interest in purchasing the service. The project manager used this data along with other customer quotes to argue for the long term survival of the project with his hierarchy. "I went to see our president with these quotes, and they were very useful in making my point that this was needed. He just did not see a fit for it within TTC-SO's organization."[283] The Customer Advocacy team failed to successfully manipulate the strategic context in linking its initiative with "CSAT". We now look at the potential failure points which led the customer advocacy project to ephemeral autonomous strategic behaviour.

[283] Support Director, interview

Failure Points Leading to Ephemeral ASB

In the case of customer advocacy, multiple potential failure points were experienced by the team (Figure 30). Initially, the team successfully embedded the project in the structural context; but ultimately it failed to mobilize wider support and manipulate strategic context.

Figure 30: Failure Points in Customer Advocacy Project



As we have discussed, the project was executed prior to being promoted more widely. While the team was successfully launched at the onset of the project and grew to a significant size (i.e. 17 heads), it was disbanded as a change in structural context together with a failure to sell of the service, combined to make the team vulnerable to downsizing activities. “The executives saw the value in having customer advocates, but

they just did not think they should be operating out of TTC-SO. So when the downsizing came around, it was one of the first teams to go. The mandate was later transferred somewhere else"[284]

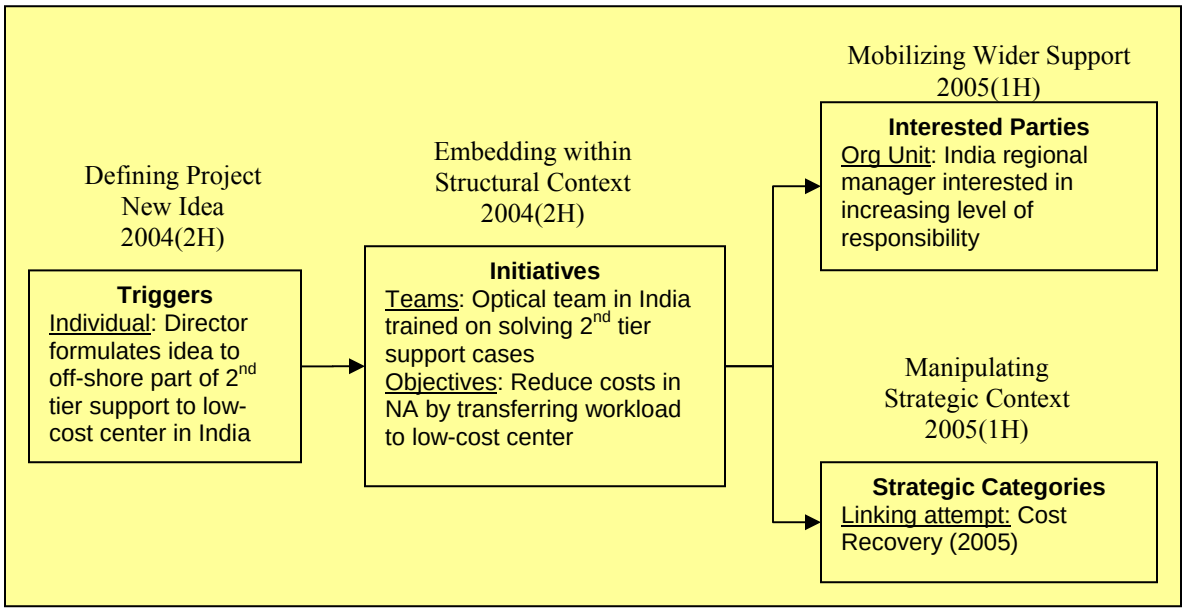
The Customer Advocacy project encountered two failure points. First, the team failed to mobilize the service revenue group to endorse its initiative. "We provided them with a lot of information and they were interested for a while. But in the end they saw this as an ad-hoc service which was not deployed to all products and all regions."[285] The failure to generate an order code did not allow the project manager to "book" the service revenue, i.e. to allow the project manager to bill the customer for its customer advocacy services, despite the stated intentions of two existing customers, to purchase the premium service should it be available. "This would have recovered the cost for half my resources with these two customers only."[286] Therefore, while the project had been successfully embedded in the structural context when it was initially executed, the inability to generate revenues did not allow an emergent strategy pattern to take hold because the long term resource flows required to sustain the project were not secured. Concurrent to failing to mobilize wider support from the service profit and loss organization, the Customer Advocacy project also experienced failure in linking with "CSAT". The director drew upon endorsements quoted from satisfied customers and presented the initiative to its hierarchy. However, the argument he made for the continuation of the service did not sway the hierarchy into modifying its view. Accordingly the project was cancelled, the customer advocates were disbanded and the autonomous behaviour became "ephemeral".

[284] Support Director, interview
[285] Support Manager, interview
[286] Support Manager, interview

8.2.2 Optical Off-Shoring to India

The second project which ultimately became "ephemeral" ASB was Optical Off-Shoring to India, which was defined from a new idea and, as in the Customer Advocacy project, executed prior to being promoted (Figure 31).

Figure 31: Optical Off-Shoring to India



Defining the Project

In the case of Optical Off-Shoring, the director of the Optical TTC-SO was looking to respond to the pressure of cost cutting required during the years post internet-bubble. "Once the bubble burst, from that point on, the challenge was more in terms of reductions such as staff reductions and cut-backs."[287] The difficulty was to continue to support the same installed base of products while at the same time to reduce the overall budget for the group. The main driver for the budget was the number of employees in the

[287] Support Director, Interview

group. While all groups were subject to headcount reductions, the Optical director was looking for other ways to reduce spending while continuing to have enough people to support a large pre-internet-bubble installed base. "In optical the biggest challenge is that it has a huge installed base. The installed base of optical products is one of the largest – if I compare it against our competitors. That kind of installed base in products was driving all the growth that we had."[288] In order to achieve apparently contradictory objectives, i.e. supporting a growing number of networks while reducing the cost of supporting them, the Optical director launched an Off-Shoring initiative whereby some of the 2nd tier support work could be performed by people located in India. "Even when the bubble burst, we still had a huge install base to support. So with reductions in operations we still had to support all the legacy, plus the market had shifted from small systems to a lot of small systems. And for us, it does not matter whether the system is big or small; it's the volume that makes the difference. So even though the sales dropped off, the volume of equipment remained pretty high."[289] The cost of having those people in India was estimated as a fraction of that of maintaining the workforce in North America. Therefore the group could deal with continued volume pressure while at the same time reduce overall support costs. This initiative was launched by the director while the rest of TTC-SO was establishing an Off-Shoring hub in Turkey. "I wanted to really leverage that team and add different resources for tier two. The group in India was tier one for us but I wanted to give them more emergency recovery responsibility and also tier two support responsibility on a few products."[290]

[288] Support Director, interview
[289] Support Director, interview
[290] idem

Embedding within Structural Context

The Optical Off-Shoring project was embedded in structural context by the creation of a team of six members to take 2nd tier cases. The team was trained by the North American engineers, who shared knowledge with the team in India – in effect, diffusing and implementing organizational routines to this new team and geographic location. In the second part of the year, the new off-shore team began to take some of the volume of the work previously performed in North America. In addition, formal objectives were established that addressed that portion of work to be transferred from high costs center of North America to the low cost center in India which was already performing some of the 1st tier case work. As a 2nd tier support center, the India Optical team took customer calls, performed troubleshooting functions, i.e identified the customer's problem by asking a series of technical questions, and simulated the problem to find its causes in TTC-SO's North American lab using remote access functionality.

Mobilizing Wider Support to Provide Impetus

In the case of Optical Off-Shoring our study found that only one additional group inside TTC-SO was mobilized for the project. Indeed, other support groups were not interested in this initiative which was launched in India as they were building their own off-shored capacities in Turkey, a rival low-cost location. Thus, the only mobilized party beyond the unit that initiated the project was the optical group in India which was doing 1st tier support. As such, it was interested in increasing its technical expertise in order to expand its mandate. "I wanted to really leverage that team and add different resources for tier two. They were tier one but I wanted to give them more emergency recovery

responsibility and also tier two support responsibility on a few products. And I wanted to grow the team because it's really a fraction of our costs here. They were happy to take the extra responsibilities."[291] The team in India, once in place, embraced the initiative as engineers trained and expanded their technical knowledge beyond their traditional tier one responsibilities.

Manipulating Strategic Context

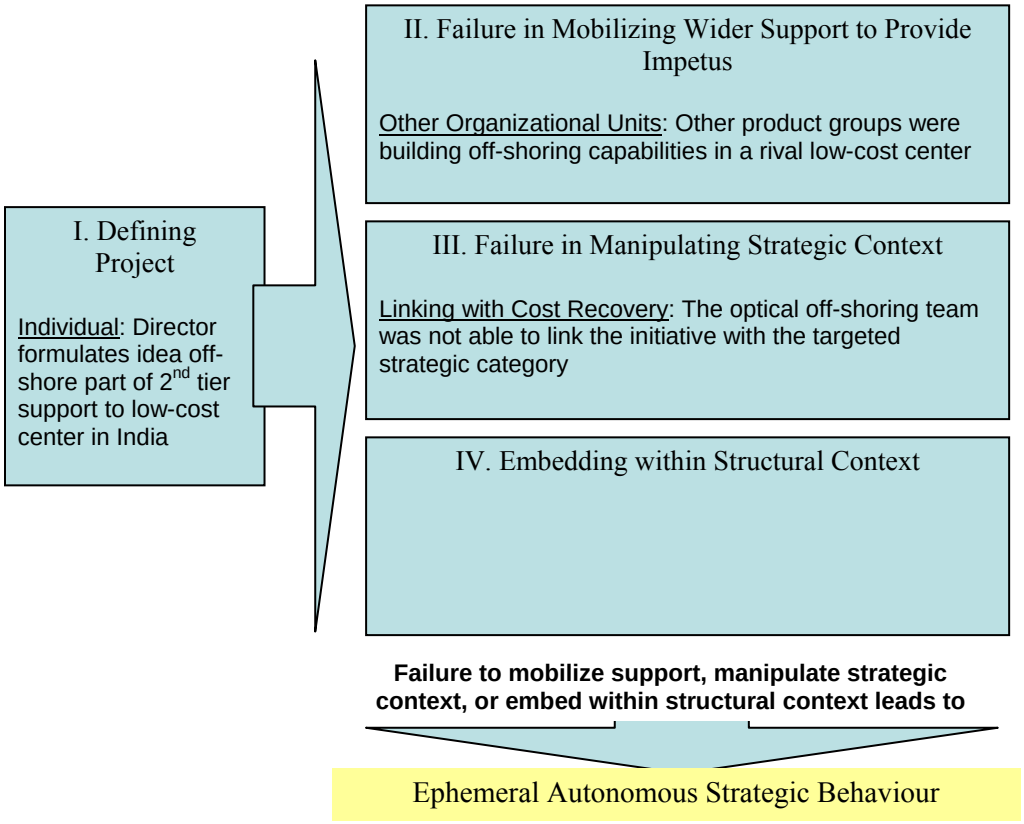
In the case of Optical Off-Shoring the team attempted to manipulate the strategic context by linking its initiative with the "Cost Recovery" strategic category. The cost of operating in India, while similar to that of operating in Turkey, was much lower than the cost of keeping the work in North America. The objective of the director was to offset the pressures to reduce costs while revenues were declining by moving some of its activities to a low-cost labor country. Given the increase of volume of incoming cases, he felt this would enable the team to continue to deliver on the customer commitments while at the same time reaching "Cost Recovery" targets. However, the location which was chosen conflicted with the direction taken by the other product support groups. While the team was able to lower the costs by moving the work to India, it was not successful in making the argument to the rest TTC-SO. Our study, did not find evidence of attempts to articulate the potential gains or promote the project to the rest of the organization in any of the numerous documents examined; the optical group implemented the move in autonomous fashion. The optical team thus failed to manipulate the strategic context in linking its initiative with "Cost Recovery" and the initiative was cancelled and moved to Turkey to align with other product groups.

[291] Support Director, interview

Failure Points Leading to Ephemeral ASB

In the case of Optical Off-Shoring to India, multiple potential failure points were experienced by the team (Figure 32). While the team had initial success at embedding the project in the structural context; it failed to mobilize wider support (beyond the immediate team in India) and to manipulate strategic context to its advantage.

Figure 32: Failure Points in Optical Off-Shoring to India



Although the Optical Off-Shoring project was defined with an aim of reducing the cost of support for optical products by moving the work from a high cost location to a low cost location, the broader organization was building capabilities in a rival location. This meant that the Optical project was at odds with the rest of the corresponding off-shoring projects for other product lines. In fact, the decisions about the structural context

which were made by the team (i.e. choosing India over Turkey) complicated the promotion phase: efforts to link the project with the "Cost Recovery" strategic category failed because the hierarchy was not receptive to investing in multiple off-shoring sites. "From a technical point of view it was the right thing to do, but from a business direction for optical, India was not the place to go. There were other growing locations such as Turkey for example. So I was going against the business strategic direction from a location perspective. I was building up India when that was not the right place."[292] In addition to the failure to link the project to the concept of strategy, the team did not mobilize wider support beyond the interest of the optical team in India. Other product groups were not involved in this initiative, nor were other organizational units such as the Optical Design group which was used to working closely with the North American optical engineers. Therefore, the project experienced failures in the promoting phase, i.e. mobilizing wider support and manipulating strategic context. Accordingly the project was cancelled, the India Off-Shoring 2nd tier support engineers were disbanded and the autonomous behaviour became "ephemeral".

We now proceed to our concluding chapter.

[292] Support Director, interview

CHAPTER IX: DISCUSSION AND CONCLUSION

In this chapter we present a summary of our answers to the research questions posed and discuss how this study makes contributions (Section 9.1); argue for additional contributions related to methods for the study of emergent strategy (Section 9.2); present limitations of our study (Section 9.3); and present our conclusion (Section 9.4).

9.1 SUMMARY – ANSWERS TO RESEARCH QUESTIONS AND CONTRIBUTIONS

In this study, we asked three questions:

1. ***How does emergent strategy form in large complex organizations?***
2. ***What is the role of autonomous strategic behaviour in this process?***
3. ***Why does autonomous strategic behaviour sometimes lead to emergent strategy while in other cases fails to produce realized strategy?***

We now present our findings concerning each of them.

9.1.1 How Does Emergent Strategy Form in Large Complex Organizations?

We have found that emergent strategy forms as the result of autonomous strategic behaviour undertaken by both middle management and operational level actors, through a process which we have characterized in terms of four components, i.e. defining the project, mobilizing wider support to provide impetus, manipulating strategic context, and embedding within structural context. Our study builds on the Bower-Burgelman model which posits strategy as the outcome of iterated processes of resource allocation; and

makes a contribution by clarifying, nuancing or contextualizing the components of that model. Further, our study identifies four possible emergent strategy formation paths as a given project representing autonomous strategic behaviour endures and takes hold in the organization, becoming a "pattern in time" and modifying the organization's concept of its strategy. We now discuss our contributions, organized around each of the components of the model and the formation paths.

Defining the Project

Our study makes two contributions to the understanding of this component of the overall process. First, we differentiate between new idea formulation and the recycling of pre-existing ideas from previously failed or dormant projects. This nuance is important as it suggests that failed projects and dormant unfunded ideas can provide a reservoir of possibilities for future projects. This is consonant with the Garbage Can Model of organizations (Cohen et al., 1972) in which problems are matched with pre-existing organizational solutions. While the Garbage Can Model was applied to "organized anarchies", an organizational archetype which feature problematic preferences, unclear technology and fluid participation, our study suggest that other types of organizations also possess a reservoir of "solutions looking for issues" (Cohen et al., 1972: 1); and that garbage-can-like processes can contribute to the formation of emergent strategy. In the case of Automated Installed Base Tracking (ES2), the lab team had developed a solution for tracking network equipment which could be applied beyond the tracking of the company's own internal lab equipment, i.e. as a solution for the "problem" of tracking customer equipment for the purpose of billing adequate service charges for supporting it.

Associating emergent strategy with garbage can processes is an important insight as it nuances the traditional view that emergent strategy implies qualitative novelty (Bunge, 2004). Indeed, it would suggest that emergent strategy may also bring forth solutions which already exist in the organization. In other words, the novelty is born out of the combination of a problem and a solution yet neither the problem nor the solution, are novel in isolation

Second, our study confirms the presence of three triggers, i.e. an event, process or activity identified by organizational actors as causative of the formulation of the idea. As our findings illustrate, the defining of a project initially dissonant with the concept of strategy may be triggered (1) individually; (2) collectively; and/or (3) externally. These findings confirm inferences made and tentative conclusions drawn as a result of our literature review. Our findings confirm the importance of strategic conversations (Liedtka & Rosemblum, 1996) in shaping emergent strategy. At the local levels conversations between individuals and actors in local environments (e.g. customers), help the organization gain knowledge about its environment and actors' preferences while "institutional" (i.e. conversations between individuals and the organizations' leadership) level conversations help reshape corporate intent. This suggests that scholars studying emergent strategy need to pay attention to individuals and collective dynamics (i.e. individual and collective triggers) as well as to interactions across the organization's boundaries (i.e. external trigger).

Further, our study illustrates that individuals acting as triggers for autonomous strategic behaviour can be found at both the operational and middle management levels. While Bower and Gilbert (2005: 444) associate different processes with distinct

organizational levels (i.e. the operational level "initiates"; middle management "translates"; and the corporate level "aligns"), our study suggests that middle management may also be an important initiator of autonomous strategic projects. In fact, we found three projects where middle managers individually triggered autonomous strategic behaviour, only one of which endured and took hold as emergent strategy. In the case of Follow the Sun (ES5), a director launched the project for providing support across various time zones, by creating a team in Australia in order to respond to a difficult situation where engineers were getting paged overnight on a frequent basis, because the product they were supporting was unstable. Because the director had the managerial discretion and control over resources required, he was able to execute the project before it was promoted to other organizational actors. The two projects in our study which led to ephemeral ASB were also triggered by individual directors and executed prior to significant efforts at promoting them: Customer Advocacy (EASB1) and Off-Shoring to India (EASB2). In both cases, strong goal orientation (Idenburg, 1993) displayed by the individuals during the project definition phase suggests that autonomous behaviour may provide the means for middle managers to challenge their organization's concept of strategy. These findings further suggest a link between the level of the organizational actor who defines an autonomous project and the specific path through which autonomous strategic behaviour becomes realized as emergent strategy by enduring or becomes ephemeral by disappearing: autonomous strategic behaviour initiated by individual middle managers appears more likely to be executed before it is promoted widely as compared to autonomous strategic behaviour initiated by operational level engineers. This is likely because middle managers control more – and have more

discretion concerning – the financial, technological and human resources needed to launch a new project that is dissonant with the prevailing concept of strategy, as compared to lower level engineers or professionals. This means that projects can get further along before additional resources from wider constituencies are required. But it also means, it would appear from our findings, that projects launched by middle managers that are executed before being promoted are in some sense more risky: both ephemeral ASB projects followed this unfortunate path. Of course these findings are suggestive not conclusive and more empirical research is needed to confirm or delimit their generalizability. This is an important insight because it raises concerns about the level of risk associated with projects which are executed as an early priority and suggests that middle managers are more likely to engage resources and create dissonance with the concept of strategy with projects which ultimately do not endure, i.e. become "ephemeral".

Mobilizing Wider Support to Provide Impetus

With the second component of the overall process we make two contributions to the field. First, we highlight the special vulnerability of autonomous strategic behaviour; ensuring the flow of resources to projects and initiatives which are unplanned and difficult to justify in terms of existing strategic categories is more challenging than securing resources for projects endorsed by an existing strategic plan. This is congruent with, and to some extent mirroring of, the work of Burgelman & Välikangas (2005). They show that high availability of uncommitted resources and low prospects for current business lines tend to favor all-out ICV programs as firms seek new opportunities from

venture programs. It also suggests that changes in the context in which autonomous strategic behaviour is carried out, especially as concerns resource scarcity or richness, can influence whether the behaviour is likely to endure to become realized as emergent strategy or to disappear as ephemeral activity. For example, in the case of Customer Advocacy (EASB1), the project became vulnerable when the global telecommunication environment changed because of the bursting of the internet bubble, leading TTC-SO to initiate "Workforce Reduction". The failure of the project manager to secure funding via additional revenues from customers precipitated the dismantling of the group of customer advocates. It is plausible to posit that, had the project originated from induced behaviour, it might have had better odds at enduring through these difficult times; for example, of the deliberate projects initiated at the same time as this autonomous project, while some experienced reduced mandates, none were cancelled as a result of the introduction of the strategic category of Workforce Reduction[293]. The case of Customer Advocacy (EASB1) illustrates how the endurance and survival of a project rests in part on the ability of its champions to mobilize wider support by obtaining adequate resources over a period of time long enough for a pattern to form and take hold. This insight points to avenues for further research to clarify the link between resource scarcity and the likelihood of autonomous behaviour (1) being undertaken; and (2) successfully becoming emergent strategy.

Second, our study provides a typology of different types of actors from whom support for autonomous activity can be sought, which includes both internal and external stakeholders; and suggests that resources from multiple actors can be mobilized. In the

[293] This was verified to the best of the researcher's knowledge as the study did not focus deliberate strategy and detailed data for those projects was not collected

case of Supportability (ES1), the seeking and obtaining of support from all three types of actors contributed to securing resources and project success. An investment in supportability by a product manager who was initially reluctant to do so was attributed to customers requesting a feature from the design team which had been demonstrated to them by the supportability team. Individuals inside TTC-SO's organization contributed to the initiative by sharing tools which had already been developed by them, for their respective products. Finally, another organizational unit, the design group, offered to fund an initiative by allocating a transfer budget to the supportability team. This suggests that the political savvy (Pettigrew, 1977) displayed by organizational actors in convincing multiple stakeholders of the merits of their autonomous initiatives might make or break a project. It also points to the potential influence of external actors in shaping strategy (Bower & Gilbert, 2005).

Manipulating Strategic Context

With the third component of our process model, we make an important contribution by clarifying and nuancing in more detail Burgelman's notion of strategic context manipulation, defined as "the efforts of middle management to link autonomous strategic behaviour at the product/market level into the corporation's concept of strategy" (Burgelman, 1983b: 66). While Burgelman argues this is accomplished by introducing new categories for the concept of strategy, our study sheds light on how middle managers accomplish this.

Our model illustrates how middle managers manipulate strategic context by positioning and presenting the benefits of their local actions in terms of existing,

modified or new strategic categories for the organization. If successful, the concept of strategy is altered to reflect the previously unsanctioned autonomous projects, which in turn creates a new structural context favourable to related future initiatives. While modifying the concept of strategy by introducing new strategic categories is featured in Burgelman's work (1983b), we extend the model by identifying two additional types of strategic manipulation aimed at reducing strategic dissonance between the project and the concept of strategy: linking to and modifying existing strategic categories.

Our study found instances of the three types of strategic context manipulation. For instance, the most significant change to the concept of strategy in the five cases of autonomous projects leading to emergent strategy was the case of supportability: this was the case of a local initiative, aiming to improve the ease of supporting a product experiencing frequent failures. The project was initially launched by developing tools and features for the product to enable constant monitoring of network components and early detection of outages. From this single, one-product-only, local project, TTC-SO ultimately embraced and developed the concept of "supportability", introducing a new strategic category for its understanding of how products should be supported, with "Product Supportability" (2001), and modifying the strategic category by changing how products should be built, with "Design for Supportability" (2003). Supportability became a central desired product attribute.

Our study also found instances of strategic context manipulation featuring linking and modifying of strategic categories. While these two types of strategic context manipulation may contribute to less drastic changes in the concept of strategy, they expand our understanding of the various discursive strategies by which organizational

members can link their projects to an evolving concept of strategy. In the case of Real Time Data Metrics (ES3), the project was eventually linked with the "48 Hour Case Closure" strategic category, which did not exist when the autonomous project was conceived. Once introduced by senior management, however, this strategic category was exploited by the project manager who linked his Real Time Data Metrics project (ES3) to it by arguing that the project, i.e. the merger of two databases, was required in order to meet the "48 Hour Case Closure" targets. This project illustrates that initially unrelated changes in the concept of strategy may, in fact, benefit autonomous projects by providing novel means to link their initiatives to the concept of strategy.

We have argued immediately above that autonomous projects may benefit or be hindered by "context" changes as resource become richer or scarcer. The Real Time Data Metrics project is another kind of illustration of the importance of "context" for autonomous strategic behaviour projects. Indeed, as the concept of strategy changes independently of the project's activities, it provides new 'context' which may help or hinder the promoters of the autonomous behaviour. It suggests the need for promoters of autonomous projects to be more sensitive to the material (i.e. resources) and ideational (i.e. concept of strategy) 'context' in which they find themselves, as well as how this evolves. This is an important insight because it creates an avenue for future research as it links our study with the literature on sensemaking (Gioia & Chittipeddi, 1991; Weick, 1995). The process of sensemaking leads to "a revised conception of the organization" (Gioia & Chittipeddi, 1991:434). It allows the organizational actor to review his beliefs about strategy and the environment and to change his strategic cognitive structures (Porac & Thomas, 2002). It also points to the need for more investigation of how organizational

actors respond to discontinuities in the concept of strategy and, in so doing, can make sense of these in ways which allow them to successfully manipulate the strategic context to the advantage of their autonomous strategic project. "To understand sensemaking is also to understand how people cope with interruptions" (Weick, 1995: 5).

By operationalizing the concept of strategy as an organization's overall set of established strategic categories which can appear, change or disappear, our study also identified a series of patterns in changes in the concept of strategy at TTC-SO. Our study thus proposes a typology for such changes which we have termed "Reinforcements", i.e. changes in concepts which move the organization in a constant direction; "Reversals", i.e. alternating changes in which an organization flip-flops between two mutually exclusive strategies where advantages sought with one strategy are opposite to those of its reversal; and "Revisions", i.e. singular changes in a strategic category isolated somewhat from other changes. For example, the "Process Alignment and Standardization" reinforcement included the modification of the "Process Measurement" strategic category to "Six Sigma" (2005) as well as the introduction of two categories, "Service Standardization" (1998) and "Process & Tools Standardization" (2001). This constant shift toward increased standardization was present throughout our period of study. Revisions, such as the "Security" shift introduce novel strategic categories while reversals, such as the "Expansion/Contraction of the Product Line", reveal organizational choices between strategic trade-offs (Porter, 1996). Because trade-offs "arise from activities themselves… different position require different product configurations, different equipment, different employee behaviour, different skills, and different management systems" (Porter, 1996: 69), reversals may prove costly for an organization.

Conversely, they may provide new opportunities for autonomous behaviour which is dissonant with a given strategic position to become attractive and even sanctioned because it can be more easily constructed as consonant with the alternative trade-off position. More research is needed to explore in more depth how reversals affect the fate of autonomous behaviour.

Embedding within Structural Context

With the fourth component of our model, we make a contribution by identifiying a set of specific changes which contribute to the embedding of once unsanctioned autonomous activity within the structural context: modifications to teams; changes to procedures and routines; and new objectives. This set of changes is consistent with Burgelman's (1983b) findings in which structural context was found to "encompass choices of top management regarding the overall structural configuration, the degree of formalization of positions and relationships, the criteria for project screening, the measures of managerial performance and the appointment of middle managers with particular orientation toward entrepreneurial initiative" (Burgelman, 1983b: 66). However, while Burgelman identifies structural context as playing a key role in the induced behaviour stream and strategic context as playing a key role in the autonomous behaviour stream, our findings illustrate that autonomous strategic behaviour also leads to the manipulation of structural context in addition to strategic context. For example, in the case of Follow the Sun (ES5), the director was able to create three new regional teams and to begin to generate benefits from the initiative, in the form of reduced pager rates for incoming customer calls after hours, while the project was still being promoted to the

hierarchy. His ability to manipulate the structural context had an impact of the ease of defending the initiative because he presented and promoted the project using the tangible results, and positioned the project as a best practice for the organization.

Once again, this component of the model highlights the importance of "context" for autonomous strategic behaviour as changes in structural context, independent of the autonomous behaviour, can give an opportunity for managers to embed their initiatives in the newly defined structural context. For example, in the case of Supportability (ES1), a reorganization, which was not initiated as a result of the activities in the Supportability project, provided more visibility to the team because it was centralized under a new organizational chart and it gained additional product responsibilities under its new mandate. Real Time Data Metrics (ES3) was yet another example of a change in structural context which provided the manager of the project with more visibility as he was moved under a more senior executive. This provided him with an increased ability to promote his initiative. Our findings thus suggest that promoters of autonomous strategic behaviour adapt to – and seek to capitalize upon – changes in the organization's structural context.

These insights strengthen the theoretical links between changes in structure and autonomous behaviour (Burgelman, 1983a; 1983b): they are consistent with the finding that emergent strategy correlates with organic structures (Slevin & Covin, 1997) from a study showing that high sales growth is more positively related to emergent strategies in firms with such structures; and with approaches that link emergent strategy to "adhocracies" (Mintzberg & McHugh, 1985), the most organic type of structure. It appears therefore that allowing middle managers the ability to manipulate structural

context, an activity typically reserved to the organization's leadership (Bower, 1970), fosters emergent strategy formation, as do adaptive responses by promoters of autonomous projects to changes beyond their control. This latter point highlights again the role of serendipity in autonomous strategic behaviour outcomes (Pascale, 1984)

Emergent Strategy Formation Paths

Our study identifies different formation paths for emergent strategy by classifying autonomous projects along two dimensions. First, we differentiate between autonomous projects which are formulated from new ideas and those which are formulated using pre-existing ideas from failed or dormant projects (i.e. recycled). Second, we differentiate between projects which were promoted early (i.e. mobilizing wider support & manipulating strategic context were done early in the life of the project, i.e. before executing it) and those which were executed early (embedding within structural context was done early in the life of the project, i.e. before promoting it).

Our study shows that organizational actors can engage in autonomous strategic behaviour in different ways, resulting in projects which follow different paths. By promoting early, actors attempt to set the conditions for the project to be executed once the mobilization of wider support has granted resources and once the manipulation of strategic context has reduced the dissonance between the project and the concept of strategy. Conversely, executing early does not reduce the dissonance nor does it secure long term resources for the project by mobilizing wider support. However, executing early provides the organization with the benefit of a quick implementation and may yield results to which actors can point when promoting the project in the future. These two

dynamics echo the dichotomy described by March (2006) between "rationality" where actors think first and act second; and "foolishness" where actors act first and think second. Indeed, a project which is promoted first allows more actors in the organization to think about its benefits (as well as its costs and possible risks!) before it is executed; while a project which is executed first offers the benefits of trial and error learning which comes with exploration (March, 1991).

While emergent strategy has been categorized under the learning school (Mintzberg et al., 1998), more research is needed to explore the links between emergent strategy and strategic learning (Mintzberg & Waters, 1985; Mintzberg, 1988; Mintzberg et al., 1998). Organizational learning encompasses "processes in which members of the organization act as learning agents for the organization by detecting and correcting errors in theory in-use and embedding the results of their enquiry in private images and shared maps of the organization" (Argyris & Schon, 1978: 29). However, for organizations to detect errors in theory-in-use, managers may need to suspend existing assumptions and to "experiment" with novel markets, products, or activity systems. The "foolishness" of executing early might provide organizations with learning outcomes that would not occur otherwise. Follow the Sun (ES5) is a case in point of such strategic learning. The project was launched and executed early despite the hierarchy belief that 2nd tier support should be conducted in the center-of-excellence which was co-located with design. Indeed, by applying the leadership's assumptions of "rationality" to how 2nd tier support should be organized the project would not have been implemented. However, once executed the project was presented as a best practice [294] and it was included as part of the "True 2-Tier Support Model". Similarly, tolerance for "errors", i.e. autonomous behaviour which

[294] SPS package, 2001

becomes ephemeral, is an important part of trial-and-error learning. Thus the connections between autonomous behaviour, learning and emergent strategy merit more research attention.

Our study also suggests there may be a relationship between emergent strategy formation dynamics and the level of risk associated with autonomous strategic behaviour. Both ephemeral autonomous strategic behaviour projects in our study (Customer Advocacy, EASB1 & Optical Off-Shoring to India, EASB2) followed a path in which executing was an early priority. It seems plausible to posit that executing before promoting presents a higher level of risk as resources are engaged while the project still features dissonance with the concept of strategy; and that, conversely, promoting before executing presents a lower level of risk as autonomous strategic behaviour does not engage important resources until dissonance has been partially reduced. These different formation paths may be a way for organizational actors to further manage the tension between providing too little versus too much strategic coherence (Liedtka & Rosemblum, 1996).

Once again, this suggests that organizations may promote or hinder strategic coherence by encouraging or discouraging middle managers engaging in autonomous behaviour. It points to the importance of middle managers in the tradition of the middle-up-down model of knowledge creation (Nonaka & Takeuchi, 1995), where middle management take the vision from corporate level of "what should be" and confront it with operational realities of "what is" to formulate ideas. Our model suggests distinct paths for putting these ideas in practice. On one hand, granting more autonomy to middle managers might lead to higher rates of projects executed as an early priority, albeit at the

expense of greater dissonance; on the other hand, limiting discretionary spending by middle managers might encourage them to pursue the path of promoting as an early priority, perhaps at the expense of foregone learning.

We now proceed to answer our second research question.

9.1.2 What is the Role of Autonomous Strategic Behaviour in This Process?

Our study shows that autonomous strategic behaviour plays a critical role in fostering emergent strategy. We make an important theoretical contribution as our study clarifies the link between Mintzberg's concept of emergent strategy and Burgelman's concept of autonomous strategic behaviour. While induced behaviour leads to deliberate strategy making, autonomous strategic behaviour is identified as an important precursor to emergent strategy.

Clarifying the link between Mintzberg and Bower-Burgelman's model also provides an enhanced understanding of strategic learning (Mintzberg & Waters, 1985). Strategic learning marks the transition from emergent to deliberate strategy; as organizational actors manipulate strategic context, the concept of strategy is changed which in turn prompts the organization to modify its structural context in ways that induce new subsequent strategic behavior to duplicate or expand on the newly recognized pattern. For example, in the case of the Supportability (ES1) project, our study uncovered that strategic learning occurred as the initially autonomous project endured to become emergent strategy which in turn became recognized and valued, ultimately pervading the organization. Indeed, while initial supportability features which were built for selected products were borne from autonomous behaviour, the pattern grew to encompass all products as the team became centralized under a single leader. The team was successful

in manipulating the strategic context; and organization modified its concept of strategy with the introduction of "Product Supportability" and reinforced this later with the change to "Design for Supportability". These changes in turn induced the development of new supportability features which were consonant with the concept of strategy, stemming from sanctioned behaviour.

We may revisit the Honda story (cf. Pascale, 1984) with our model in mind in order to gain a new perspective. Indeed, our model helps to reinterpret facts from the case to explain what happened between the moment that the Honda employees in America stumbled on the opportunity for small 50cc bikes and the moment that Honda began to see itself as a potential leader in selling small motorcycles in America. The activities of the local Honda executives in America, who began to sell small motorcycle bikes to local sport shops, may be categorized as autonomous strategic behaviour, given the clear dissonance with the stated objectives of the Japanese leadership who initially targeted the large motorcycle market and wanted to sell through established dealers. The Honda executives in America were able to mobilize wider support from external actors as dealers began to buy the bikes rather than take them in consignment as was the habit in the American motorcycle industry. Honda announced that "thereafter, they would cease to ship on a consignment basis but would require cash on delivery. Honda braced itself for revolt. While nearly every dealer questioned, appealed, or complained, none relinquished his franchise" (Pascale, 1984: 66). This new sales arrangement freed up important resources, enabling Honda to grow more quickly its business in America. Interestingly, the support did not come from the targeted motorcycle dealers, the traditional shops, but rather from the sport shops which saw the small Honda motorcycle

as a promising product, coherent with their own market. In addition to this, once the executives began to realize the potential for the niche they had stumbled upon, they manipulated the strategic context in order to change the perception of what should be the concept of strategy for Honda, given the embracing of small motorcycles in America as they began to actively pursue this new market. However, it did not come easy to the executives who struggled with some of the innovations they introduced. For example, the marketing campaign was fiercely debated internally as the executives did not believe the slogan "you only find the nicest people on Hondas" would serve them well. In fact, it was a lower level manager who pushed the campaign slogan and convinced the hierarchy to adopt it. We may speculate that the concept of strategy would not have changed in a more rigid, bureaucratic firm as the leadership would have cancelled the campaign based on their own belief system.

Autonomous behaviour combined with serendipitous events led Honda to discover a new niche market, which in turn became recognized and targeted, inducing subsequent behaviour as Honda reformulated their deliberate strategy. Strategic recognition (Burgelman & Grove, 1996), the ability of the organization to recognize successful patterns and to modify its concept of strategy, occurred as the Honda executives modified the planned strategy. This led to new routines in the form of a novel advertising campaign, new distribution channels, and the formulation of aggressive market share objectives as the executives embedded Honda's American initiatives within the structural context of the organization. Without strategic recognition, we speculate that emergent strategy may not have come into being, i.e. been realized, at Honda. The Honda story highlights another type of organizational hero. This case is not about the traditional

"rational" manager, successfully targeting the right customers with the right product at the right time. Rather it tells the story of managers with peripheral vision able to recognize failures through entrepreneurial learning (Chia, 2006), adapt to changing environments (Burgelman, 1991) and question prior hypotheses (Schwenk, 1984).

Our model thus offers new means to interpret existing empirical accounts of emergent strategy by applying its components to investigate the formation dynamics, from autonomous behaviour to emergent strategy. Our hope is that the process model and the formation paths we have uncovered will help future researchers in generating novel hypotheses which could be tested to further develop our understanding of emergent strategy. For example, the link between the level of risk involved in engaging in autonomous strategic behaviour and the formation path chosen could be explored further given a larger sample of narratives. Such studies could investigate preferences (Andrews, 1970) in relation to the level of risk which an individual might be inclined to accept. Initiating autonomous behaviour suggests the individuals have a higher tolerance for risk as it represent exploration (March, 1991) at the local level, which carries more risk for the organization than exploitation of current routines which have proven benefits. Our findings further cluster the autonomous behaviour into different risk-levels for the individual engaged in the project. Indeed, we speculate that executing early (i.e. embedding within the structural context) carries more risk than promoting early (i.e. mobilizing wider support & manipulating strategic context).

We now proceed to answer our third research question.

9.1.3 Why does autonomous strategic behaviour sometimes lead to emergent strategy while in other cases fails to produce realized strategy?

Our study fills an important gap as it differentiates explicitly between 1) cases of emergent strategy from autonomous strategic behaviour and, 2) cases of ephemeral autonomous strategic behaviour which fail to modify the concept of strategy. Indeed, our model identifies a strategy making outcome previously ignored in the literature which we have coined 'ephemeral autonomous strategic behaviour.' While Mintzberg's model has in it both realized and unrealized strategy flowing from intended strategy, it features only realized strategy flowing from emergent strategy. Therefore it does not account for dissonant activities, i.e. autonomous strategic behaviour, which do not result in a pattern in action.

Using our process model, scholars (and practitioners) can better understand why autonomous projects do not endure to become realized as emergent strategy but, rather, become ephemeral and disappear, by testing for failure points in mobilizing support, manipulating strategic context and/or embedding within structural context. Our study suggests that not making, or failing at, attempts to navigate each of these process components results in projects being abandoned. The Customer Advocacy (EASB1) project illustrates where failure points in each of the three components can occur. The team failed to mobilize support from another organizational unit which was in charge of creating the order codes necessary for accounting for and registering (i.e. "booking") customer revenue; failed to manipulate strategic context as it was unable to link its initiative to the strategic category of "CSAT", despite interest from customers in purchasing the service; and failed to embed their project into the structural context, with the result that the role of customer advocates was eliminated and the mandate moved under another organizational unit outside of TTC-SO.

While Burgelman argues that "the degree to which middle management is successful in activating the process of strategic context determination provides guidance for further entrepreneurial initiatives at the operational level" (Burgelman, 1983b: 66), his model does not explicate the causes of autonomous strategic behaviour becoming "ephemeral". Our model highlights three such causes. First, failure to mobilize wider support leads to vulnerability because autonomous projects often experience resource funding challenges and require wider bases of support to overcome these difficulties: our study found that from the seven autonomous strategic projects, six experienced funding challenges. The ability of organizational actors to generate support may also be related to the "context" of the organization; the presence of organizational slack (Cyert & March, 1963) may facilitate the mobilizing of wider support by the organizational actors engaged in promoting the project.

Empirical research has shown that emergent strategy formation is positively correlated with benign environments (Slevin & Covin, 1997). While this work is consistent with the insights from our study, Slevin & Covin's study of 112 firms in 78 industries does not offer the 'thick description' useful for understanding and appreciating the mechanisms linking different environments and emergent strategy formation patterns. Although our study was not designed to investigate such causality, it is reasonable to posit that after the internet bubble, resources became scarce at TTC because of declining revenues and this affected adversely the ability of middle managers to exercise discretion in decision making. This in turn may have adversely affected the pool of autonomous activity at TTC-SO. For example, the Customer Advocacy (AESB1) project was

cancelled in that "context". As the manager described, "we never got the funding and when the cuts came around, we were vulnerable."[295]

Second, failure to manipulate the strategic context leads to vulnerability because the project features ongoing dissonance with the concept of strategy. Strategic conversations (Liedtka & Rosemblum, 1996) help reduce the dissonance as organizational actors juxtapose their local actions with the hierarchy's concept of strategy and attempt to reconcile contradictions. Our study identifies two ways in which dissonance can be reduced. One way is through the successful manipulation of strategic context to align the dissonant project with the concept of strategy; another way is through the abandonment of the dissonant project which leads to ephemeral ASB. Third, failure to embed within structural context leads to vulnerability because official teams, routines, and objectives may compete with the project and divert its resources. In the case of Supportability (ES1), early efforts to develop supportability features often competed with other TTC-SO's technical support priorities and led to engineers temporarily leaving their supportability responsibilities to attend to more urgent TTC-SO matters.[296] In addition, once the supportability team was centralized, it became easier to involve greater number of technical experts from all product groups in building and disseminating supportability features.

In summary, our model provides a guide for practitioners engaged in autonomous activity. It identifies what may lead such projects to experience difficulties and become ephemeral ASB. By paying attention to each component of the model managers may increase their chances of contributing to the emergent strategy of their organizations.

[295] Support Manager, interview
[296] Support Manager, interview

From a theoretical perspective, we extend Mintzberg's model (1978, 1988) by introducing and theorizing a fourth strategic outcome, "ephemeral ASB". We proceed to discuss future directions for research beyond our study.

9.1.4 Directions for Future Research

Our study provides a model for emergent strategy formation; and our discussion of the model has emphasized the important role of "context" in shaping the dynamics and fate of autonomous behaviour. "Few have established to what extent there may be inter-relationships between context and micro-strategising" (Wilson & Jarzabkowski, 2004: 18). In this section we propose lines of inquiry as more research is needed to put emergent strategy back into context. Future studies could address the following questions: (1) What is the role of changes in an organization's environment in shaping emergent strategy? (2) How do the individuals' attitudes and preferences influence emergent strategy formation paths? (3) Is emergent strategy always a desirable phenomenon for an organization?

Our typology for shifts in the concept of strategy (reinforcements, revisions, reversals) may serve as a starting point to further evaluate the role of changes in an organization's environment on emergent strategy. For example, the "Expansion/Contraction of the Product Line" reversal at TTC-SO seemed to mirror closely the changes in the telecom environment. At the outset of the Internet Bubble, TTC-SO reversed its concept of strategy and began to refocus its product line on its core products. This prompted a systematic review of projects and initiatives which proved fatal to Customer Advocacy (AESB1) which was not deemed part of the core of TTC-

SO's activities. Conversely, the same reversal coincided with a re-organization of TTC-SO which led to a centralization of all Supportability (ES1) activities under a single leader which benefited the project by embedding it further in the structural context. It may prove fruitful to expand further on the linkages between the variation-selection-retention paradigm of evolutionary organization theory (Burgelman, 1983a; 1991; Barnett & Burgelman, 1996) and our process model for emergent strategy to better understand the role of environmental changes on projects born out of autonomous strategic behaviour. Indeed, varying levels of autonomous behaviour (i.e. variation) may be correlated with specific types of environments (Slevin & Covin, 1997) while efforts to manipulate strategic context (i.e. selection) may be helped by environmental shifts as was the case for Supportability (ES1) which lead TTC-SO in modifying its concept of strategy to include supportability as a key design and support attribute for all its products (i.e. retention). While advances in genetics has enabled biologists to explore linkages between micro-level work on DNA and macro-level species evolution, analogous evolutionary organization theory has yet to link the micro to the macro in a systematic fashion (Shepherd & McKelvey, 2009). Our study provides new avenues to pursue Burgelman's (1983a, 1991) ecology model as we offer empirical evidence of micro-level dynamics (i.e. autonomous strategic behaviour) selected in and retained intraorganizationally. Indeed, we provide a process model featuring both: 1) autonomous strategic behaviour or micro-level dynamics (i.e. organizational actors defining projects, mobilizing wider support, manipulating strategic context, and embedding within structural context) and; 2) emergent strategy, a macro-level property (i.e. a property of the organization, the whole cf. Bunge, 2004). However, in order to complete the analogy

with the ecology model, more research is needed to establish a link between the formation of emergent strategy (a macro-level property) and environmental selection of organizations based on such emergent strategy formation (macro-level dynamics).

The second line of inquiry could strengthen our understanding of the links between emergent strategy and individual's attitudes and preferences. Our study has identified and underlined the important role played by operational and middle managers (cf. Westley, 1990; Langley et al., 1995; Rouleau, 2005) in fostering autonomous strategic behaviour. Operational managers and middle managers were identified as individual triggers for the defining, i.e. conceptualizing, of unsanctioned projects. However, our study did not investigate the role of preferences (Andrews, 1970) or strength of goal orientation (Idenburg, 1993) in formulating such projects. In the case of Real Time Data Metrics (ES3), the manager had been intent on providing the ability to produce reports using real time data for several years. His project garnered the support and funding once it was redefined with a novel rational for executing the project. We may speculate that his strong preference toward the project played an important role in his endeavour to redefine the project. While this is not very surprising, it posits that garbage can model dynamics (Cohen et al., 1972) are not disentangled from actors' individual preferences and goals. Concepts such as sensemaking (Weick, 1995), and sensegiving (Gioia & Chittipeddi, 1991) may provide anchor points in studying how individuals challenge their assumptions (Porac & Thomas, 2002) and overcome their bias about prior hypotheses (Schwenk, 1984) or, equally important, find ways to impose their assumptions and biases on others.

The third line of inquiry could investigate whether organizations always benefit from emergent strategy formation. As Huff & Reger (1987: 213) note, the purpose of strategy process research may be divided into two approaches "as taking either a *normative* approach (how things should be done) or a *descriptive* approach (how things are done).This dichotomy reflects the desire to do work of immediate utility for those with decisions to make versus the appeal of classic standards of science". While the work on emergent strategy along with Mintzberg's studies has been deemed integrative (Huff & Reger, 1987) because it refutes the standard formulation vs. implementation dichotomy widely adopted in the field, it remains for the most part descriptive. In that vein, our study, like previous ones on emergent strategy, has taken a descriptive approach rather than a normative one. Our literature review has uncovered very little work which establishes emergent strategy as a desirable phenomenon. The work of Pascale (1984) certainly implies that emergent strategy proved very successful for Honda as it carved itself a dominant position on the American motorcycle market. Others, like Mintzberg focused on the descriptive nature of emergent strategy only (Mintzberg & McHugh, 1985). Was the NFB better off for pursuing experimental films as an emergent strategy? Slevin & Covin's work (1997) provide the only example of work which studies linkages between emergent strategy and performance. The authors show that high sales growth is more positively related to emergent strategies operating in benign environments and featuring organic structures. Our study at TTC-SO suggests that improvements in different dimensions of performance may be linked with the ability of organizations to manage the dissonance created when actors lower in the hierarchy initiate strategically autonomous projects, i.e. are dissonant with the prevailing understanding of strategy but

nonetheless make sense to local actors and contribute to some dimension of performance. Indeed at TTC there was a push to derive revenues from services and in particular from support services. However, the structural context at TTC-SO impaired the ability to achieve this objective. On one hand, the support organization throughout our study period was established, for accounting purposes, as a cost center. Therefore several primary performance metrics for the organization strongly emphasized costs. Focusing on cost reduction often precluded engineers from expanding efforts to define new services, or to promote and sell existing ones. Meanwhile, support engineers were often in the best position to understand customer needs and to promote new services as they had established trust with the customers by helping them solve their technical issues. Conversely, the organization responsible for selling services did not have direct operational contact with customers and rather went through traditional sales channels to accomplish their objectives. A case in point is the failure to successfully establish an order code to sell customer advocacy services while two customers had already indicated they would be interested in purchasing the service. Therefore, it appears that the Customer Advocacy (EASB1) project introduced dissonance which was never reduced, leading to the cancellation of the project. This appears to be a missed opportunity: had TTC-SO been able to sanction the project it could have contributed to TTC's performance as it would have generated additional revenues while also increasing customer satisfaction. In the case of Automated Installed Base Tracking Tool (ES2), the project was able to target revenues in excess of USD 30 Million, which contributed significantly to the performance of the Warrantee Management Group and by extension to TTC. On the other hand, it is difficult to evaluate missed opportunities. So future

research could explore the question of whether or under which conditions emergent strategy is beneficial to an organization.

We now proceed to discussing additional contributions of our study

9.2 ADDITIONAL CONTRIBUTION: METHODS FOR THE STUDY OF EMERGENT STRATEGY

With this study we make a notable methodological contribution to the study of emergent strategy.

9.2.1 Operationalization of Strategy, Fine Grain Analysis and Tracking of Autonomous Behaviour

Our study features an approach to the study of emergent strategy which has facilitated the development of our novel insights. First, while most studies in the past have had access to high level strategies documented by the organizations they investigate, such as the study at two baby Bell companies (Noda & Bower, 1996), Intel (Burgelman, 1994; 1996), or the National Film Board (Mintzberg & McHugh, 1985), we used middle management business plans and priorities in order to identify strategic activities to be studied. We tracked lower level activities in the organization to perform a fine-grained level analysis. Given that autonomous strategic behaviour is initiated by lower level actors (Burgelman, 1983b), the tracking of lower level business plans and priorities becomes necessary. In the field of complexity science (Maguire et al., 2006), emergence is viewed as a global property of a system. However, its formation dynamics are associated with properties of its parts and with their interactions (Bunge, 2004). Our research design, therefore connects autonomous strategic behaviour, which originates

from lower organizational activities (properties of parts of the organization), to emergent strategy formation (property of a global system) in a process model. "Process data consists largely of stories about what happened and who did what when – that is, events, activities, and choices ordered over time" Langley (1999: 692). Our study also merges two leading views on the definition of strategy. Our methods reconcile Porter's view of strategy as a portfolio of activities (1996) and Mintzberg's view of strategy as a pattern (1978). Using a fine-grain level analysis we tracked patterns in activities initiated by lower level organizational actors. Such an operationalization of strategy is novel and resolves differences between strategy as a position and strategy as a pattern (Mintzberg, 1987a) by tracking patterns in positions in time, i.e. patterns in combinations of activities over time.

Another contribution is our operationalization of emergent strategy as a pattern of activities in time which do not fit the concept of strategy at the time of formation of the pattern. Indeed, while the work of Bower and Burgelman implicitly operationalizes emergent strategy by looking at changes in the concept of strategy resulting from the recognition and sanctioning of autonomous strategic behaviour, and while the work of Mintzberg infers emergent strategy from patterns in time in the absence or despite intentions, we systematically traced the linkages between autonomous strategic behaviour and emergent strategy. Clarifying the theoretical connections between Mintzberg's and the Bower-Burgelman models has allowed us to develop and propose a novel approach to the study of emergent strategy.

Our operationalization of Bower and Burgelman's concepts of autonomous strategic behaviour, concept of strategy, induced strategic behaviour, strategic context

and structural context afford an avenue for future researchers to systematically investigate emergent strategy formation using both historical and real-time longitudinal methods. Our model, we have argued, may be used to generate novel research questions. For example we have discussed potential links between the levels of risk that organizational actors may find acceptable and the emergent strategy formation paths that result. However, in order to explore these issues, further research which builds narratives which link autonomous behaviour and emergent strategy is needed. We have used grounded theory to construct our model inductively. In general, this "is a strategy which tends to stay very close to the original data and therefore is high on accuracy" (Langley, 1999: 700). However, it is low on generalizability. So future research could apply the components of our model to larger sample of narratives in exploratory research; and could diversify the strategies for sensemaking of the process data (Langley, 1999).

9.3 LIMITATIONS

The study of emergent strategy poses challenges inherent to the nature of the concept. While real time studies are often best as the researcher can truly understand how and why events play out over time (Mintzberg, 1979), such an approach is not easy in the case of emergent strategy: the collection of real time data may even be impractical. Indeed, while a researcher may immerse himself into an organization to witness events first hand, there would be no guarantee ex ante that emergent strategy would result, making the endeavour quite risky. On the other hand, if the researcher were content to study autonomous strategic behaviour regardless of its longer term fate, our study provides a conceptual framework for linking this with our introduced concept of "ephemeral autonomous strategic behaviour" in addition to emergent strategy. So long as

autonomous projects exist, the researcher could track them in real time to improve our understanding of one or both of these outcomes, and the strategy making process more generally. Because of the difficulty of tracking emergent strategy in real time, we used historical data. We chose to look for patterns in time by performing a longitudinal study. Such an approach features limitations because it increases the chances of introducing interpretive biases as the researcher investigates events which happened in the past and which may be difficult for interviewees to recall vividly. Our study however mitigated this issue because of the researcher's own experience at TTC-SO and because we made extensive use of archived documents in tracking autonomous strategic behaviour, albeit retrospectively.

Explaining a phenomenon requires one to establish causality. However, in some studies, causal links may be complex and difficult to measure (Yin, 2003). In this exploratory qualitative study, we have used a "narrative strategy" to theorize from process data to build theory. "It is the contextual detail in the narrative that will allow the reader to judge the transferability of the ideas to other situations" (Langley, 1999: 695). We were granted exceptional access to TTC-SO and were also able to benefit from our past experience working in the organization. These two factors contributed to the creation of narratives with 'thick descriptions'. While the narrative strategy is high on accuracy, it may, conversely, feature low generality (Langley, 1999). In addition, using a single case study presents another limitation to generalizability as multiple case studies afford the ability to compare and contrast (Yin, 2003).

9.4 CONCLUSION

With this study, we open the black box of emergent strategy by building a theoretical link between two important traditions in strategy research built around Mintzberg's (1978, 1988) and Bower and Burgelman's models (Bower, 1970; Burgelman, 1983a, 1983b, 1983c). We identify autonomous strategic behaviour as an important precursor to emergent strategy and propose a model describing the formation dynamics of the latter, beginning with the former. This study of a large diversified telecommunication company's support division over a period of ten years uncovered seven instances of autonomous strategic behaviour. In five of these instances, autonomous behaviour led to emergent strategy; while in the remaining two the autonomous behaviour was "ephemeral" – a novel phenomenon previously given little attention in research in the Bower and Burgelman tradition. This finding thus extends Mintzberg's model of strategy-making.

The study opens new directions for future research. It also offers insights of value to practitioners looking to increase the likelihood of their autonomous strategic projects enduring and becoming realized as emergent strategy by drawing attention to the importance of developing their abilities to 1) mobilize support for the initiative to secure resources and provide impetus; 2) manipulate the strategic context in order to tie the initiative to the concept of strategy; and 3) embed within the structural context to produce results from the initiative. We hope this study will generate new momentum to continue to pry open the black box of emergent strategy, as "strategy walks on two feet, one deliberate, the other emergent" (Mintzberg, 1987b: 69). While many studies have focused their energies on understanding why some plans fail (i.e. unrealized strategy), we feel it is

myopic for a field of scholars to ignore organizational realizations simply because they were unintended (i.e. emergent strategy). Our path to unlock the mysteries of emergent strategy is not an easy one, but it is full of promise.

APPENDIX I: DELIBERATE AND UNREALIZED STRATEGY AT TTC-SO

Table 48 lists the ***Deliberate Strategy*** we tracked in our study. These are the projects which we could map to existing strategic categories at the time they were initiated. The table features a high level description as well as the main strategic categories for this induced strategic behaviour. In this section, we discuss each of the projects briefly as we provide evidence of the induced nature of these elements of strategy.

Table 48: Deliberate Strategies

Project	Description	Strategic Categories
D1: eService	Provide information and technical support via the portal. Aim to divert some of the case volume via eService initiatives	Service Profitability, Process & Tools Standardization
D2: Y2K	Test and prepare for year 2000 change of date	CSAT; Product Quality
D3: Entitlement	Develop the processes and tools to establish the level of support customer are entitled to	Service Profitability
D4: Time Tracking	Develop the processes and tools to accurately track time of support engineers	Cost Recovery; Service Profitability; Process & Tools Standardization
D5: RQMS/TL9000	Adhere to ISO 9000 standard for telecommunication sector by building a compliant metrics program for reliability and quality	Process & Tools Standardization; Process Measurement
D6: Centers of Excellence (CoE)	Create 2nd level product specialized groups to provide advanced technical support, often co-located with design.	Security & Crisis Management; CSAT; Off-Shoring; Product Quality
D7: ERC/Escalation	Produce and communicate Express Routing Codes which provide the customer direct access to skilled customer support.	CSAT; Service Profitability
D8: Lab Consolidation	Centralize equipment and reduce the number of labs to maintain. Increase the size of main labs to increase functionality.	Service Profitability; Workforce Reduction; Broad Portfolio Mix
D9: Six Sigma	Implement methodology to manage processes by reducing defects with	Process & Tools Standardization; Processes Measurement; Product

	statistical methods to measure deviation from bounded quantitative objectives.	Quality
D10: Off-Shoring	Move workforce from high cost labour markets to low-cost labour markets.	Service Profitability
D11: Merit Pool	Create a pool of money to reward top performers in company	ESAT
D12: 1-800 consolidation	Consolidate incoming calls from customers into main call flow	Process & Tools Standardization
D13: Electronic Software Delivery	Deliver new software by automated, electronic means using a streaming model	Service profitability; Product Quality
D14: Outage Reduction	Build tools to automate outage alarming and emergency recovery when nodes or cards are down	CSAT; Product Quality; Product Supportability
D15: CRM platform	Install common CRM platform and align processes for all support groups and migrate data from other systems to new CRM tool	Process & Tools Standardization; Service Profitability

D1: The eService project consisted of creating a web interface for customers intended to facilitate access to technical support documents, as well as allow users to open, follow up and close technical support tickets. Such an initiative was consonant with two strategic categories. First, eService was a way to provide technical support at "reduced service costs"[297]. By facilitating the access to technical information, it could help prevent potential problems by "encouraging customer issue self-diagnostic through improved eService tools."[298] Second it was consonant with the "Process & Tools Standardization" push for tools as eService offered a global portal regardless of the product involved in the customer query.

D2: The Y2K project aimed at ensuring continued service for customers as the date would roll over on January 1st 2000. While every potential scenario could not be tested, TTC-SO was involved in extensive review of its code as it conducted testing jointly with its customers' technical representatives. This was an initiative consonant with

[297] SPS package, 2000
[298] SPS package, 2001

sustained "CSAT" and maintaining "High Product Quality". As of July 1999, 62% of customers had been deemed compliant[299].

D3: The Entitlement project was initiated in order to understand what level of support the customers were entitled to. This was consonant with the "Service Profitability" priority[300]. Indeed, such a process had an important impact on profitability given the service revenues were in large part driven by the number of network components in the customer network. "The biggest driver for service revenue is that we are quoting people on how many pieces they have in their network without knowledge of how much equipment they have. Several of the customers that we got back to, where we have done manual audits as part of the service we provide; we came out with $25 million in service revenues. That is only with the main customers we deal with regularly for these audits. There are many more out there. I mean, I don't think they are doing it maliciously, but it creates an opportunity to drive service revenues."[301]

D4: The Time Tracking project was implemented in an environment were cost cutting was forcing TTC to make choices about were to direct remaining resources. Time tracking was implemented in order to facilitate "Cost Recovery" which was important to drive "Service Profitability". "There has started to be a shift at TTC. Now we are held more accountable and everybody's budgets are being tighten and so certain teams were more incline to say justify what your people are doing, I think that's where time tracking started and we are at the point now where 98% or 99% or the tech support team are cost recoverable: the time that they spend either needs to be changed back to customer service contract or needs to be recoverable through the loaded labor rate." In addition to

[299] SPS package, 1999
[300] SPS package, 2003
[301] Support Manager interview

achieving cost recovery and service profitability objectives, time tracking was consonant with the "Process & Tools Standardization" as it was implemented through a global CRM tool.

D5: The RQMS/TL9000 project aimed to align "Process Measurement" with the industry's ISO 9000 standard. This meant that metrics packages had to include a series of compliant metrics such as case arrivals, and network outages. Cases were clustered along TL9000 definitions of critical (live network service issues such as partial or total network outage or loss of billing or redundancy capabilities that require immediate corrective action), major (network service issues such as hardware failure without immediate impact, isolated incident, intermittent loss of billing capability or redundancy) and minor (all other issues such as root cause analysis and other problems causing minimal impact to customer)[302]. This strategy was consonant with "Process & Tools Standardization" as it aimed to align with the industry standard. It was also consonant with the objective of "Process Measurement". TL9000 audits were conducted by external people in order to obtain the accreditation.

D6: The Centers of Excellence project was consonant with having a "True 2-Tier Support Model". Initially, these centers were created as "the geographical aggregation of a design organization and a second line support of a specific product."[303] These would provide the in depth customer expertise on the product as Design and Support could work closely together on resolving issues and the support engineers could benefit from knowledge transfer. A few years later the strategy evolved somewhat as Centers of Excellence also became off-shoring locations were highly skilled support and design

[302] SPS package, 2000
[303] SPS package, 2000

work took place.[304] Given that CoEs were also created to provide emergency recovery functions, such groups were also consonant with the objective of "High Product Quality" and "Security & Crisis Management" situations[305].

D7: The ERC/Escalation project was implemented as the organization was trying to grant customers direct access to 2nd level technical support. This meant that customers were given Express Routing Codes (ERCs) for each one of the products they had in their networks in order to reach the appropriate technical support groups. This strategy was consonant with providing high "Customer Satisfaction" as it would reduce the number of layers they had to navigate in order to get the help they needed. Customers who could perform level 1 troubleshooting would then get direct access to technical support for resolution.[306] The strategy was also aligned with achieving "Service Profitability" given that part of the work was now performed by the customer. The goal was to partner and train the customer in order to get them to reach appropriate skill levels to effectively use ERC numbers.[307]

D8: The Lab Consolidation project was implemented as part of TTC's efforts to curb increasing costs. As TTC grew via acquisitions of products in the years prior to the internet bubble, it also acquired a series of labs which had equipment for support purposes. The Lab Consolidation project aimed to reduce the number of labs and to increase the remaining one's product coverage. On one hand, this meant tracking and relocating existing equipment, including some of TTC's competitor's products to provide a wide interoperability testing environment. On the other hand it meant providing

[304] Support Director interview
[305] SPS package, 2003
[306] SPS package, 2000
[307] SPS package, 2000

connectivity to remote users who needed the equipment to perform technical support. In some cases it also meant sharing facilities with Design teams.[308] This initiative enabled TTC to deliver some savings via workforce reductions of personnel from labs that were consolidated. It was consonant with achieving two distinct objectives of getting cost savings from lab operations while maintaining a "Broad Portfolio" of products which could be supported.

D9: The Six Sigma project aimed to use an industry methodology to measure process effectiveness and efficiency. The methodology uses statistical methods to calculate process deviations in order to ensure high process compliance. This program meant that TTC trained a number of experts who were awarded Six Sigma projects. "The lean six sigma teams are working to dissect some of the key business problems and try to highlight ways to improve our processes to enhance or rewrite our process to be able to remove some of the roadblocks. It's definitely a shift in terms of going more towards managing with data and giving people the tools and the resources to do continuous improvement properly."[309] This project was consonant with providing "High Quality Product" support as errors could be quantified and rectified as part of a rigorous statistical process. This furthered the objective of "Process Measurement" and provided a platform for "Process Standardization and Tools" via Six Sigma methods.

D10: The Off-Shoring project aimed to reduce costs by displacing work from high cost labour countries to low cost labour countries. This was consonant with reaching "Service Profitability" objectives. This initiative implied TTC-SO launched workforce reductions in high cost countries and in parallel hired and trained support engineers in

[308] Support Project Manager, interview
[309] Support Director, interview

countries such as India, Mexico, Turkey and Vietnam. "Basically, these guys are now the go-to guys. Not all of them of course, but some. And there are super skilled guys here too, but it's a difference of who is willing to take on the big shovel and put in lots of hours. And that's the off-shore contractor guys because there's a culture for that over there."[310]

D11: The Merit Pool project was implemented to distinguish and reward high performers in TTC-SO's organization. This initiative was consonant with maintaining high "ESAT" in times of high employee turnover due to rapid growth of the industry in the years prior to the internet-bubble. The objective was to retain scarce skills and critical knowledge.[311]

D12: The 1-800 Consolidation project was initiated as TTC-SO was attempting to reduce the numbers of ways a customer could reach North American technical support. This initiative was consonant with providing a single point of contact for customers by consolidating previous divergent call flows into a single unified 1-800 support number. It also was consonant with the objective of "Process & Tools Standardization" tools to provide support functions.[312]

D13: The Electronic Software Delivery project was implemented as TTC-SO was changing its way of delivering patches via the eService portal as general availability (GA) release packages rather than solving them on case by case basis. This implied the creation and implementation of a GA process for tracking, bundling and releasing technical fixes to customers in a scheduled delivery via the web portal. This initiative was consonant with "High Product Quality" as it implied less customer ad-hoc technical fixes

[310] Support Director, interview
[311] CEO, quarterly letter, 1997
[312] SPS package, 2003

and it provided "Service Profitability" as it reduced the likelihood of duplication of technical fixes.[313]

D14: The Outage Reduction project aimed to diminish the number of outages by creating automated tools which would warn support engineers when a component or a card would go down and could in some cases initiate automated recovery. This meant that low level code had to be created and implemented directly on the product in order to simulate an engineer watching each and every component in the network. "The problem is that often you lose visibility of your tracking because a lot happens at lower level and so you kind of have to embed code at the lowest level to be able to make a copy of what you are tracking and to send it to a higher layer in order to do what you have to do"[314] This initiative was consonant with "High Product Quality" and ensuring high "Customer Satisfaction". "Our executives talked to customers, and they told them that what they cared about was outages."[315] The objective was to drive 100% of alarming for all outages.[316] Automating outage recovery and ensuring alarming was also consonant with achieving high product supportability.

D15: The CRM Platform project was implemented as TTC-SO was coping with several non-communicating CRM platforms as different product groups were using different CRM tools. This initiative provided a unifying tool which was consonant with "Process & Tools Standardization" as all product groups were asked to agree on common processes for logging and tracking customer issues. It also provided the capability to implement several other projects which would help drive "Service Profitability" such as

[313] Support Project Manager, interview
[314] Support Project Manager, interview
[315] Support Director, interview
[316] SPS package, 2006

Time Tracking and Entitlement. "We had no choice, it was dictated from above. But looking back at the tool now it had everything that we needed for our business and more. The capabilities that were there, and still the base level code that we get from the CRM tool, it has everything that we require from entitlement to time tracking."[317]

From the induced strategic behaviour we can further cluster the projects by identifying the most prominent strategic categories which were inducing these activities. Table 49 shows the top strategic categories given by the mapping.

Table 49: Drivers of Induced Activity

Strategic category	Number of Strategies Induced
Service Profitability	8
Standardization (includes service standardization & process & tools standardization)	6
High Product Quality	5
CSAT	4

The most prominent category was "Service Profitability" while "Standardization", "High Product Quality" and "Customer Satisfaction" also drove several of the strategies activity induced at TTC-SO. This finding also relates to the fact that some categories were present for the entire duration of the study (i.e. "High Product Quality", "CSAT") or were present for a significant portion of the study ("Service Standardization" 1998-2006, "Process & Tools Standardization" 2001-2006, "Service Profitability" 2002-2006). Predictably, strategic categories which appeared later in our study did not feature as

[317] Support Manager, interview

prominently in inducing strategic behaviour, having less time to induce patterns of activities (i.e. "48 Hour Case Closure" 2005-2006, "Focused Investments" 2006, "Off-shoring" 2006, "Six Sigma" 2006, "Service P&L" 2006)

In addition to identifying projects leading to deliberate strategy, our analysis uncovered two projects leading to ***Unrealized Strategy*** (Table 50).

Table 50: Unrealized Strategy

Project	Description	Strategic Category Inducing Behaviour	Evidence Strategy was Unrealized
U1: BMS/BMA Gold Accreditation	BMS/BMA is an Industry Accreditation for management process. This system is built around a series of documented processes which guarantee that companies are addressing managerial dimensions in systematic ways	Process Measurement	• External assessment was never performed[318] • TTC-SO did not obtain accreditation[319]
U2: Marketing of TTC-SO	Promotion of organization outside of TTC-SO's organizational boundaries	Workforce Reduction	• No structural context identified in SPS (no headcount)[320] • No metrics associated[321] • No results reported in SPS[322]

U1: The BMS/BMA Gold Accreditation project: While the organization structured many of its communication around the 7 dimensions of the Baldridge Management System (Leadership, Strategic Planning, Customer & Market, Information

[318] Support Director, interview
[319] idem
[320] SPS 2001-2006
[321] Metrics packages
[322] SPS 2001-2006

& Data; Human Resources, Process Management, Business Results), the ultimate objective was to obtain the gold accreditation by 2000-2001. "In 1997, we started evolving towards using the Baldridge as a management system with the use of the Business Performance Measurement (BPM). BPM gave us a framework to measure our business in five critical areas."[323] The strategy was never completed as the external assessment was not performed. However, the organization continued to use the BMA/BMS terminology to structure its communication in SPS meetings. "Several people tried to implement it. I know there was an internal audit but we never did the external audit to get BMA. I don't think that in the end we succeeded."[324]

U2: The Marketing of TTC-SO project: In our study we found several mentions of the need to market the organization and to increase its visibility. This was explicitly stated in a 2001 SPS as a major objective. It was stated as one of the leadership's objective to "market this organization" and to "develop a marketing package"[325]. While some informal marketing may have taken place, we did not find any structural context of such a program. There was no visible headcount allocated to this activity nor did we find systematic induced activity or results reported. There was no metric associated with such a strategy. This strategy therefore, was planned but never realized. Furthermore, it was planned in a context of "Workforce Reduction" as the organization was attempting to justify its resources. "Well, I think we were trying to ensure that we had the visibility required to justify our resources. There was lots of uncertainty at the time and we were looking to reduce our workforce in a significant way."[326]

[323] Memo, senior leaders, 1998
[324] Support Director, interview
[325] SPS, 2001
[326] Support Director, interview

APPENDIX II: STRATEGIC CATEGORIES FOR ALL TIME SLICES

Strategic Category Vs Time Period	1997 1H	1997 2H	1998 1H	1998 2H	1999 1H	1999 2H	2000 1H	2000 2H	2001 1H	2001 2H	2002 1H	2002 2H	2003 1H	2003 2H	2004 1H	2004 2H	2005 1H	2005 2H	2006 1H	2006 2H
Broad Portfolio	Y	Y	Y	Y	Y	Y	Y	Y												
Product Quality	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Selling Services	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Global Markets	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Traditional & New Operators	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Internal & External Technology	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cost Containment	Y	Y	Y	Y	Y															
Customer Satisfaction	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Employee Satisfaction	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Process Measurement	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Product Supportability									Y	Y	Y	Y	Y							
Design for Supportability														Y	Y	Y	Y	Y	Y	Y
Original Equipment Manufacturing															Y	Y	Y	Y	Y	Y
Off-Shoring																			Y	Y
Cost Recovery						Y	Y	Y	Y											
Workforce Reduction										Y	Y	Y								
Service Profitability													Y	Y	Y	Y	Y	Y	Y	
Service P&L																				Y
Service Standardization			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Process & Tools Standardization									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Six Sigma																	Y	Y	Y	Y
Divesting Products										Y	Y	Y	Y	Y	Y	Y	Y			
Focused Investments																		Y	Y	Y
Mergers & Acquisitions			Y	Y	Y	Y	Y	Y												
Security & Crisis Management															Y	Y	Y	Y	Y	Y
True 2-tier Support Model									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
48 Hours Case Closure																	Y	Y	Y	Y

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