Gordon Institute of Business Science
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The usage of strategy tools in South-African firms

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Abstract:

This researched aimed at inventorying the strategy tools commonly used in South-African firms and to study the usage that is made of these strategy tools. A survey-based data gathering was carried out, and was followed by a frequency analysis of tools selection. In parallel, the data obtained on the usage characteristics were subjected to a statistical treatment aimed at clustering a large number of variables of interests into integrative constructs. The constructs were interpreted in light of various theories drawn from the study of strategy development and the fields of social psychology, cognitive sciences and agency based approaches to tools-in use. The resulting dimensions were used to assess the usage of strategy tools along four dimensions encompassing usage for coordination purposes, for analytical purposes, for political communication purposes and for social cognitive framing purposes. It was shown that in the vast majority of cases and on average, the “softer functions” were scored higher than the more formal ones. The argument was made that strategy tools in use mirror the characteristics of strategy development itself, and as such naturally encompass political, communicational, cognitive and social functions that are inherent to strategy as it occurs in the firm.

Keywords: Tools-in-use, affordance, heuristics, strategy, agency.

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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12/01/2016

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Chapter 1- Introduction to the research problem

1.1- Research problem

In business schools, when strategy is taught, a number of tools such as the Five Forces, or the BCG-McKinsey growth share matrices, core competencies analysis and others, are introduced to students. These tools are designed to support situational analysis and to provide assessment frameworks of strategic choices available to a given-decision maker. However, such tools, that have been referred to as technologies of rationality (March, 2006), have been criticised for being flawed for the fact that they encased strategy development into a context discarding certain of its attributes the importance of which cannot be ignored.

In particular, against the normative approaches to strategy in which the phenomenon is envisaged as an intended one, the literature has shown strategy development to be deeply embedded in social and political dynamics occurring within the firm, to be constrained by the cognitive limitations of actors resorting to heuristics to inform decision-making, and to result from the collective agency of powerful actors engaged in the firm's activities. Strategy was shown to emerge without any clear initial intent and to crystallise as an articulated construct only after its occurrence.

The richness and high level of complexity that characterises strategy development has seldom been transposed to the study of strategy tools, the latter being still considered as analytic and decision-making aid tools. A number of studies provided evidence that strategy tools, in the way they are used within the firm may very loosely match the usage that was intended for them by design, and, in fact, encompassed a broader span of functions ranging from the establishment of an efficient media to foster sufficient cohesiveness in the understanding of what

strategic issues entail, to the simple affirmation of power positions within the firm legitimising an actor's position into a more or less formal hierarchy.

Besides, strategy tools, despite their application in compliance with, and to the full extent of the tool's designers prescribed usage and translated into specific decisions, have been shown in some instances not to be translated into related actions. These indications motivated the development of an approach to strategy the focus of which would be placed on the way it is practiced. Of particular interest have been attempts to clarify the way in which strategy tools are used, and the functions they contribute to perform within the firm, as opposed to more normative views in which the usage of tools were to correspond to a prescriptive set of instructions, the failure of success of the tool being assimilated the extent to which they would be applied in the right way, or not.

In parallel, the relationship between strategy tools in use and the strategy development process itself remains obscure. The extent to which the specificities of a given tool may constrain or facilitate the development of successful strategies has only been addressed in a piecemeal manner.

1.2- Research need

It therefore appeared of importance to explore the nature of strategy tools-in-use, as opposed to their intended function by design, and to examine the extent to which the span of functions that their usage encompassed may be compared with the complexities inherent to the strategy development process.

From an academic perspective, the focus on strategy tools-in-use has been said to constrain research practitioners away from the usual units of analysis that characterised core research on strategy (Jarzabkowsky, Kaplan, 2015). It has also been said to result in invoking perspectives drawn in particular from the fields of sociology, social psychology, behavioural psychology and cognitive sciences to

illuminate the reasons underlying the types of usage made of strategy tools, and to provide explanatory frameworks that would not reduce unconventional usage to failures to implement. Rather, approaching the study of strategy tools by embracing their mismatch to what was intended by design may provide researchers with insights as to the dynamics underlying the strategy development process itself.

By the same token, the identification of unconventional functions performed by strategy tools-in-use, together with the unveiling of their importance would contribute to their legitimisation despite their possible lack of direct effect to certain measurement criteria for success, such as financial performance for instance. The fact that strategy tools would be used to perform functions that would be localised away from the deployment of analytical skills to assess choice options and determine an optimal an optimal course of action, and rather take the form, for instance, of political manoeuvring aimed at governing and managing the conflicting aspirations of powerful actors within a given firm is should not discard them or their user displaying creativity as bad for implementation. Both aspects can be, and with the same level of legitimacy, part and parcel of the strategy process.

1.3- Research objectives and scope

The initial objective of this research lied in the inventory of the strategy tools used in South African companies as has been carried out in the UK and New Zealand on one hand, and Australia and Southern Asia on the other hand (Clark, 1994; Frost, 2003). The other main objective of this research was to carry out an inventory of the types of usage that were made of strategy tools and to measure the extent to which each identified usage type would be performed either within or beyond the usage scope of the selected strategy tools (Jarzabkowski, Kaplan, 2015).

The research was intended to provide insight to the strategy tool span of usage, to contribute to the establishment of the relationship that strategy tools entertain with strategy development as a whole, and to that extent, to provide insights into certain aspects of the strategy development process itself.

A third objective of this research pertained to an assessment of the appropriateness of survey methods as complements to more common methodologies used in core strategy research such as case studies and research based on in-depth interviews, as exploratory tools beyond that of confirmatory devices.

The research was limited in scope to the resources that the researcher was in position to allocate to the project, in particular with regards to the sample size that remained limited and time constraints that affected the design of the survey tool towards a limited level of complexity.

Despite these limitations, the research was expected to provide insights that would be of value:

- To the academic community, by linking various approaches and views on strategy and decision-making into a single, albeit limited, body of research;

- To practitioners, by contributing to the debate on the nature of strategy and strategy tools usage, in particular with respect to their being embedded in social interaction and political action rather than being purely analytical and directive;

- To contribute to the testing of uncommon methodologies in the field of research on strategy and suggest potentially interesting future avenues of inquiry.

Chapter 2- Literature review

2.1- Strategy as design

2.1.1- General considerations

Strategy research is interested in understanding the determinants of success or failure of firms, the level of performance they are able to achieve over time, and to identify what contributes to the development of firm strategies (Farjoun, 2002). The earliest approaches to strategy applied to a business context were synthesized within what is referred to as the design school (Andrews, 1971; Mintzberg, 1990). According to this approach, business strategy is the result of a conceptual design exercise. It would typically consist, on one hand, in an internal appraisal of the firm under consideration's strengths and weaknesses, and, on the other hand, an external appraisal of the environment with a focus on the opportunities that may be harnessed by the firm together with the threats that it may be facing. Other important elements relating to ethical considerations and social responsibility, as well as culture and leadership were deemed as important in carrying out this exercise (Andrews, 1971).

This general framework has occupied a special space within the broader literature on business strategy. Some of the premises brought forward by the design view on strategy were adopted by essentially all other approaches aimed at providing a prescriptive framework to strategy (Mintzberg, 1990).

Firstly, a distinction is made between the notions of formulation of strategy and its subsequent implementation (Andrews, 1971). Secondly, the organisational locus where strategy is formulated is clearly identified and localized. Typically the CEO would be in charge of this specific task (Andrews, 1971), or special organisational

structure dedicated to this function would be incepted, in particular among firms adopting strategic planning as a major component of their functioning (Ansoff, 1984). In all cases, strategy development is the result of a centralized, conscious and intended activity. Thirdly, the essence of these approaches is embodied in the notion of “fit”, between external characteristics of a given environment and internal attributes of the firm (Mintzberg, 1990): a proper fit of the organisation to its environment is the major source of competitive advantage, while an organisation’s being ill-fitted would explain its relative underperformance or failure.

2.1.2- The source of competitive advantage

The various major prescriptive approaches to strategy, while sharing the notion of “fit” have concentrated their focus either on external or internal characteristics. In the Structure-Conduct-Performance (SCP) model (Bain, 1956) and the Porter positioning framework (Porter, 1990), strategic decisions -such as decisions to invest in research and development or advertising, the adoption of a given pricing strategy or focus on a specific market segment- are made in perspective of the firm’s eventual position in a given industry structure. These two approaches build strongly on microeconomic theory as well as industrial organisation and aim at establishing a causal chain that begins with industry structure which informs firm behaviour and in turn determines achieved levels of performance. Strategy was about positioning the firm right relatively to the industry constraints and competitors.

The Strategy Structure Performance (SSP) model established a more thorough link between the positioning perspective and certain internal characteristics of the firm, relating in particular to its organisational structure. According to this view, the positioning strategy of the firm must inform specific types of organisational structures that translate into increased levels of performance (Chandler, 1962). In that view, for instance, the choice of adopting a divisional structure to support a

diversification strategy may not necessarily translate into higher level of performance, in particular in instances where it would not be informed by appropriate strategic positioning considerations (Rumelt, 1972).

Several other schools of thoughts integrating the notions of rapidly changing environment and the idea of organisational inertia hampering the possibility of constant repositioning shifted the focus on organisations' abilities to adapt. On one hand the idea was proposed that only certain strategies were offered as possible to a firm due to resource constraints but also that competitive advantage would lie in the ability of firms to leverage appropriately the resources at their disposal (Barney, 1991). On the other hand, the notion of core competencies, understood as specific, quasi-unique sets of characteristics and assets found at the organisational level as a whole and providing the basis for competitive advantage, was proposed (Hamel, Prahalad, 1990). The idea of dynamic capabilities, built upon these two notions, rather than assets -whether they would be financial, physical or human- emphasized the importance of processes allowing for the reconfiguration of resources as representing the major source of competitive advantage, in particular in changing environments (Teece, Pisano & Shuen, 1997).

2.1.3- A scientific approach to strategy

In as much as the design view of strategy prescribed the formulation of broad strategies, in which the creativity of the CEO took an important place, while the details and implementation of it were devised throughout the organisation (Andrews, 1971), the view that a more scientific method could be applied to the development of business strategies was proposed by the tenants of strategic planning (Mintzberg, 1994). In this view the distinction between formulation and implementation of strategy was maintained, together with the idea of fit and that of a localised organisational space in charge of the development of strategy. However, it was proposed that the formulation of strategy be as detailed as

possible and integrate a specific plan, just as detailed, for the implementation of the formulated strategy.

Analytics would be central to this process, feedback loops allowing for assessment of a proposed strategy would be integrated in it, and allow for constant adaptation to changing conditions (Ansoff, 1984). An important additional premise underpinning this approach lied in the assumption that adopting a detailed, procedural and prescriptive method to the formulation, implementation and development of strategy would allow for sufficient management of the complexities inherent to changing environmental conditions as well as those related to the internal, collective dynamics of the firm seen as a group of interacting individuals.

2.1.4- Summary remarks

The various approaches to strategy presented in this subsection share a number of important characteristics that can be summarized as follows:

- Strategy sets the way to competitive advantage and is a conscious, rational, and intentional process the development of which occurs in a centralized manner;

- Strategy is constituted of specific phases, the formulation and the implementation;

- It is possible to consciously adapt to a changing environment and control the internal dynamics of the firm in order to orientate the collective action of firm members according to a given more or less detailed plan;

- The source of competitive advantage lies in the exploitation of a unique position within a given industry and/or of rare human, financial or physical,

tangible or intangible organizational resources, dynamically in order to generate and maintain supra-normal rents within a given industry or market

2.2- Strategy as an emergent process

2.2.1- Emergent strategies

Critical perspectives on strategic planning and the design school based on a definition of strategy as a pattern in a stream of decisions (Andrews, 1971; Mintzberg, Waters, 1985) brought forward empirical evidence according to which strategies, as a rule, do not occur as intended (Mintzberg, 1994). It was proposed to establish a distinction between the notions of intended or deliberate strategies on one hand, and realized strategies on the other hand. The former represented intended decisions made as the result of a strategy formulation exercise, while the latter referred to the actual stream of decision that took place over time (Mintzberg, Waters, 1985).

Empirical evidence showed that there exist a systematic mismatch between intended strategies and realized strategies, the difference often being substantial. Albeit the existence of such a mismatch, which would often be attributed to a failure to implement an intended strategy, evidence that coherent patterns occurred even in instances where no strategy formulation exercise took place as such led to propose the notion of emergent strategies.

Emergent strategies and deliberate strategies would represent the ideal, never attained opposites in a continuous spectrum, while all actual, real world strategies were seen as partly deliberate and partly emergent (Mintzberg, Waters, 1985). Several theoretical perspectives, drawing on studies of decision-making processes and theories of organization, were proposed to explain that phenomenon, the

widespread character of which could hardly be attributed solely to ill-implementation related issues.

2.2.2- Incrementalism

The notion of incrementalism was initially proposed as an explanatory framework for decision-making in public institutions (Lindblom, 1959; 1979). Incrementalism adopted the view that organizational decision-making is a collective process in essence. It posited that the goals and motivations of various stakeholders involved in a decision-making process as well as in related actions may not share similar goals, but rather only adhere to very broad common guiding principles. As a result, the streams of decisions made at the organizational level resulted from a bargaining process allowing for short-term decisions to be made in such a way that they are acceptable to all involved parties (Lindblom, 1959).

This perspective was applied to business strategy. Empirical evidence showed that the role of executive management involved in strategy in successful firms was much more varied than that of applying analytics to determine optimal decisions and enforce their implementation.

Rather, they interacted intensively with stakeholders within the firm in order to get an acute sense of internal organizational dynamics, identify powerful stakeholders and foster the development of a form of consensus to ensure coordinated action (Quinn, 1980). Besides, they fostered the development of and leveraged informal channels of communication aside from formal ones in order to complement information gathered from formal analytical process and to tap into the collective tacit knowledge of the market and industry embedded within the firm (Quinn, 1980). Finally, executive management avoided early decisions resulting into irreversible commitments and rather delay these while monitoring short term consequences of strategic initiatives on a small scale in order ensure that risk of failure was minimized (Quinn, 1980).

The exercise, without discarding the importance of analytics, was described as essentially communicational and political and embedded in organizational learning. Strategies were conceived as the result of logical incrementalism in the sense that the successive incremental decision pattern presented a sufficient level of coherence, and that a dominant logic would appear over time (Quinn, 1980).

The ownership of strategy in the sense of a specific locus from which it would emerge was discarded. It was also posited that the distinction made between strategy formulation and implementation may have been artificial in perspective of the realized, actual strategies that clearly developed over time and throughout, rather than in a specific locus, within the firm (Quinn, 1980).

2.2.3- Evolutionary approaches

A parallel stream of research drawing from biology and evolutionary theories was proposed to explain strategy development as an emergent process. It was posited that various possible strategies may coexist within the firm (Burgelman, 1984).

The firms would be seen as an ecosystem within which the prominent strategy of the firm would be challenged by other, alternative strategies (Farjoun, 2002). The proponents of a given alternative strategy needed to gather sufficient support in order for it to gain enough impetus to orientate allocation of resources towards it at the expense of the previously prominent strategy.

Such events would often be triggered by changes in the external environment of the firm, considered as well as an ecosystem. The Darwinian dynamics fuelling changes of strategy were understood as means of adaptation to a changing external ecosystem (Burgelman, 1984).

2.2.4- Summary remarks

This section brought forward the following propositions:

- Strategies, rather than being purely deliberate, are, if only partially the result of patterns in decision streams emerging throughout the organization;

- The distinction between strategy formulation and strategy implementation may in that sense be artificial;

- Strategy development is in essence a social process and the role of executive management, is more complex than that of determining and enforcing action towards the realization of a given strategy. Rather, it can be seen as communicational and political, for it entails tapping into collective knowledge embedded throughout the firm, ensure sufficient levels of consensus and coordination within it, and crystallizes ongoing streams of decisions, informed by the Zeitgeist, into an articulated strategy allowing for appropriate reallocation of resources;

- Strategies evolve as the organization, collectively, learns.

2.3- Insights from the cognitive sciences

2.3.1- Satisficing as criteria decision-making

The view according to which strategy, or certain aspects of it, may be the result of an emergent social process embedded the study of strategy development in the field of social and behavioural psychology. It was recognized that sufficient information to predict changes in the external environment, and most importantly,

that knowledge of the actual goals and intentions of the various actors involved in the functioning of the firm were essentially inaccessible. These fundamental limitations forbade to any decision-maker the ability to realize, in economic terms, decisions resulting from the maximization of expected utilities of alternative choices (Simon, 1976).

Rather, it was shown that decision-makers 'satisficed' -they settled for decisions that were satisfactory enough to all significant stakeholders given the information and resources available to them- and did not, in general, 'optimize' (Simon, 1955). A number of givens were provided by the organization and other institutions of which the decision-makers were part of, and played the role of parameters, or constraints within which decisions took place (Cyert and March, 1963; Bromiley, 2005; Gavetti, Levinthal, and Ocasio, 2007).

2.3.2- Cognitive biases and heuristics

Experimental research carried out on decision-making processes brought forward that even within a context of simple identified constraints and where necessary assumptions are provided, strategic decisions, rather than resulting from a rational process, are characterized by systematic biases (Kahneman and Tversky, 1974). In a similar vein, it was shown that strategic decision-making in a business context may be characterized by numerous biases.

For example, the prior hypothesis bias, through which the selection of information is made so as to confirm initial assumptions, even when erroneous, rather than objectively evaluating these assumptions in the perspective of new available information (Schwenk, 1983). The closely related anchoring bias shows how adjustments on factual assumptions in the light of new information is biased towards the initial assumption, inferences of impossibility (Schwenk, 1983), or the illusion of control, translating into decision-makers assuming an overestimated

level of control on the outcomes of a given strategy (Larwood and Whittaker, 1977).

Prospect theory posited that in situation of decision-making involving risk taking, actors would, in a systematic manner, tend to be risk averse to negative events with a high probability outcome and risk seeking to positive events with high probability outcomes, but also, and against intuition, display risk-averse behaviour for positive events with low probability outcomes and risk-seeking behaviour for negative events with low probability outcomes (Tversky, Kahneman, 1992). More broadly, specific framing, understood as contexts, within which information is presented, was shown to affect the formation of utility functions regarding a set of alternative choices for a given decision-maker (Tversky, Kahneman, 1979).

The notion of bias, besides the negative connotation it may have, and when referred to as heuristics, was shown to represent a form of simplification of the decision-making process in situations where information and time are insufficient for the complete rational treatment of a given problem and a thorough and accurate assessment of possible outcomes (Schwenk, 1983). The systematic aspect of heuristics informed the existence of sets of rules structuring the decision-making process. These shortcuts, although being prone to error in some situations, were shown to be highly economical and effective (Tversky, Kahneman, 1974), to allow for highly elaborate and efficient decisions with positive outcomes, that in turn translated into enhanced levels performance in complex environments subjected to high-levels of uncertainty (Bingham, Eisenhardt and Furr, 2007; Maitland and Sammartino, 2015).

Organizations that evolve in, interact with, and affect the environment, either internal or external, in which they operate, learn to do so with time as experience grows (Bingham and Eisenhardt, 2011). Specifically, it was shown that what is learned by organizations is a portfolio of rational heuristics. The structure of this portfolio, while initially rich and characterized by opportunistic adoptions in the early stages, was subjected to a form of Darwinian selection process that made the portfolio evolve towards a simpler one, much less rich but more focused on

strategic conditions affecting the firm (Artinger, Petersen, Gigerenzer and Weibler, 2015; Bingham and Eisenhardt, 2011). Heuristics were shown to become articulated and to allow for processes to be lightened, simplified and translate into better ability of the organization to seize opportunities (Bingham, Eisenhardt and Furr, 2007).

2.3.3- The example of effectuation

The literature on strategic entrepreneurship, highly influenced by behavioural sciences brought forward the notion of effectuation. This notion encompassed a set of decision-making principles, a heuristic, used by expert entrepreneurs, the latter being understood as experienced entrepreneurship professionals successful in multiple ventures (Sarasvathy, 2001).

Effectuation, as a heuristic, presented a number of characteristics that were examined in comparison with causational heuristics; the latter was characterized by action resulting from taking an effect into consideration and aimed at determining the means by which the said effect could be brought to fruition. In a differing manner, effectuation heuristics were characterized as beginning with an assessment of the means available to a given actor, and the subsequent dynamic and fluid determination of the ends that may be achieved with these means (Sarasvathy, 2001). A strong association with regards to strategic decision-making was established between entrepreneurs and effectuation, and executive managers on one hand, and causational approaches on the other hand (Dew, Read, Sarasvathy, Wiltbank, 2009).

2.3.4- Predictability and control

The usage of the effectuation perspective in strategic management brought forward a classification framework of the various approaches to strategy according to two notions, namely predictability and control. Predictability may be leveraged as a means of anticipating events that may affect a firm's endeavours so as allow for adaptation; control, in this sense, is seen as an accurate and timely assessment of relevant factor that may affect the firm (Wiltbank, Dew, Read Sarasvathy, 2006).

The notion of predictability was however conceptually distinguished with that of control in as much as the latter referred to approaches and attitudes aimed at creating conditions -by acting on industry characteristics or creating new markets for instance, as opposed to taking them as given- that would translate into favourable outcomes for the firm (Wiltbank, Dew, Read Sarasvathy, 2006).

Several academic approaches to strategy that were developed over time, and some of which presented in this literature review were classified according to these two dimensions in the table below (Wiltbank, Dew, Read Sarasvathy, 2006). In this classification, effectuation beyond a heuristic represents an articulated method aimed the development of non-predictive strategies.

Rather than establishing a hierarchy among the presented approaches to strategy, this classification can be seen as displaying further landmarks that may partially, and in certain combinations describe real world strategies.

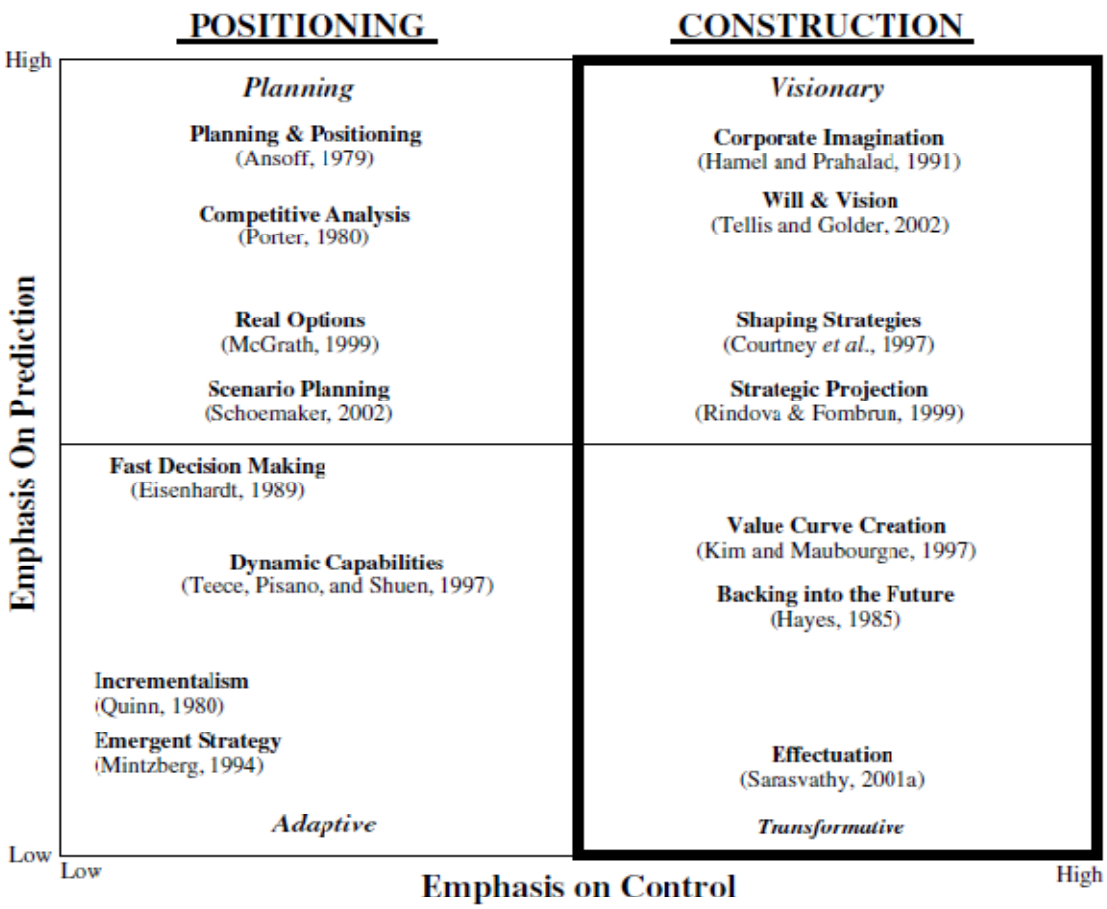


Figure 2 Representative literature on specific approaches to situational control

2.3.5- Summary remarks

Aside from resting on the application of formal decision-making, and being affected in its development by social dynamics of a given firm or organization, strategy was shown to be strongly determined by the development of heuristics in decision-making. Heuristics were shown to be articulated and to provide “rules of thumb” that are developed through the interaction between the organization and its environment. A good portfolio of heuristic rules was seen as a dynamic capability, and shown to result in higher efficiency in the decision-making process, as well as to provide a form of competitive advantage (Bingham, Eisenhardt, 2011).

Besides, the example of effectuation showed that the type of heuristics used by decision-makers differed depending on the group in which they belonged (Maitland, Sammartino, 2015). This was instantiated by the notable differences in decision-making typically adopted by entrepreneurs and executive managers and the dichotomy between effectuation and causation (Sarasvathy, 2001). This dichotomy complemented the dichotomy between deliberate and emergent strategies, thus allowing for a classification of various academic approaches to strategy along the two dimensions of predictability and control. The focus of firms on each of these dimensions in their real-world strategy determines their closeness with the various existing theoretical approaches to strategy.

These elements contributed to provide a micro-foundation for strategy development (Maitland, Sammartino, 2015) and more broadly speaking, to provide explanatory elements to the heterogeneity of firms' strategies that places its focus on the way in which decisions and decision-making are structured within a given firm (Powell, Lovallo and Fox, 2011). As a result of these considerations, the view adopted in this research is that strategy, as a phenomenon, is best approached through the study of the way in which it is practiced by decision-makers involved in the strategy process, the latter being seen as bounded rational actors immersed in the social structure that is their firm in particular (Stenfors, Tanner and Haapalinna, 2004).

2.4- Strategy as practice

2.4.1- Strategy tools as analytical and decision-aid instruments

Business executives' days are characterized by a set of disjointed activities, in a fast-paced, changing environment leaving little time for formal planning activities (Stenfors, Tanner and Haapalinna, 2004). In such a context, managerial activity

displays much more emphasis on more open, dynamic, flexible approaches with strong focus on intuition and entrepreneurship, as well as enacting and developing visions (Nystrom, 2000). Strategy is no exception to this reality and strategy work carried out by executives is done “on the run” (Stenfors, Tanner and Haapalinna, 2004).

Strategy tools are part and parcel of strategic management. Strategy tools have been defined as the management tools supporting strategy work (Stenfors, Tanner and Haapalinna, 2004). Alternatively, it has been defined as a generic name for the frameworks, concepts, models and methods that codify strategy-making within structured approaches (Jarzabokowski and Kaplan, 2015). While these tools were initially designed to be technologies of rationality (March, 2006), in as much as they were intended to provide causal models, allow for data collection within a structured space and contribute to the establishment of rules for selection of alternative choices and decision-making (Jarzabkowski, Kaplan, 2015), their usage appear to be much richer.

2.4.2- Usage beyond design

Several empirical studies showed that strategy tools were not necessarily applied instrumentally, that their usage tended to vary significantly depending on the users, and that the purpose of their usage may encompass a span significantly larger than what they were designed for, namely to guide analytics and inform choice (Spee and Jarzabkowski, 2009). The relationship between the adoption of strategy tools and firm performance has not been established formally and remains open (Staw and Epstein, 2000); this resonates with the work carried out on strategic planning, as the relationship of which with firm performance has never been established despite its wide usage in the 1960s and 1970s (Mintzberg, 1994) and up to this day (Rigby, Bigodeau, 2013).

Instead, empirical research has shown that strategy tools are often adapted and used to match the specific context and issues that executive managers are confronted to (Spee and Jarzabkowski, 2009). For example, it was shown that BCG portfolio matrices were modified to fit various specific sectors (Haspelagh, 1982), that benchmarking was used for multiple purposes, arguably beyond their initial intended purpose, and ranging from evaluation of resources to the generation of strategic alternatives (Clark, 1997). More interestingly, a tool such as balanced scorecard was shown to be used mostly as conversational tool than an analytical one. SWOT analysis was shown to be widely used in discussions on strategy without the results of these discussions being carried forward into any decision (Hill, Westbrook, 1997).

2.4.3- Negotiation, coordination and communication

Going back to strategic planning, it was proposed that its still very prominent usage despite a questionable direct relationship to performance could be embedded in power dynamics within a given firm and be used as a means to maintain control of certain interest groups and reaffirm hierarchical relationships (Mintzberg, 1994); alternatively, it has been seen as contributing to serve as a bargaining platform contributing to coordination and consensus building in as much as it provided a yearly platform in which various internal stakeholders were in position to negotiate resource allocation on a recurring basis (Mintzberg, 1994; Quinn, 1980).

The notion of boundary objects was invoked in order to describe the communicational role that strategy tools may play within an organisation. Boundary object were defined as semantic objects that form a common point of reference upon which various actors can rely upon in order to communicate without necessarily having the same exact interpretation of that semantic object (Stenfors, Tanner and Haapalinna, 2004).

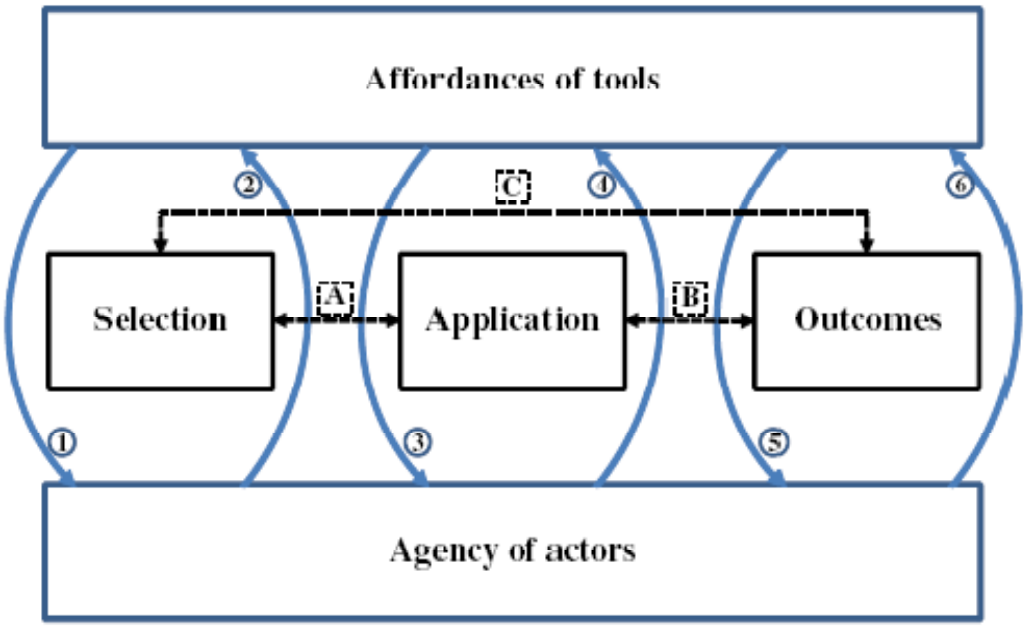
This notion related quite closely to that of empty signifier (Von Groddeck, Schwarz, 2013), that was applied to trends and megatrends in forecasting. It was defined, in linguistic terms, as a signifier without a specific, clearly determined signified, yet sufficiently localized to allow for exchanges to take place in a dialectical process moving its common interpretation and understanding to a narrower, shared localisation (Von Groddeck and Shwarz, 2013).

Within the field of strategic management, strategy tools understood as a boundary object or as empty signifiers, have been shown to mediate and foster a common language for strategy the understanding of which is sufficiently clear to the involved parties for coordination to take place, while allowing enough space for this understanding to evolve over time in a dialectic process of communicational exchanges (Stenfors, Tanner and Haapalinna, 2004; Jarzabkowski, Kaplan, 2015).

2.4.4- Affordance

The notion of affordance has been used to provide a framework for analysing the usage of strategy tools (Jarzabkowski, Kaplan, 2015). The general notion of affordance was drawn from sociology and was defined as the material or conceptual constraints that limit the span of usage of a given tool. For example, a chair's main usage is that of a seat, but it may also be used as a stepping stool, a small table, as fuel for heat, etc... However it is unlikely to be used as a vehicle, an entertainment device or to cut something.

Strategy tools, although presenting a certain level of flexibility in their usage, can only be used within a certain span because of conceptual constraints, and provided the availability of certain resources because of material constraints (Jarzabkowski, Kaplan, 2015). As an example, balanced scorecards increasingly heavily rely on important information technologies infrastructures to collect and structure data, which are costly and may not be available to smaller organisations.



According to this framework (table 1), the selection of strategy tools is free within a context that is constrained by the affordance of the tools, by the bounded rationality of their users as well as to the extent to which the agency of the users is constrained by that of other actors within the organisation. In that sense, the usage of strategy tools reflects the power structure of the firm. The application of these tools, which remains flexible to the extent of their affordance, is made in improvisation by actors within the organisation allowing for the interpretation of strategic context and pursuance of preferences and interests.

The outcome of the application of tools extends beyond the achievement of a strategic decision and reaches an encompassing span ranging from individual and organisational learning to the development of an ethos of expertise at the individual level (Jarzabkowski, Kaplan, 2015).

Table 1. Dynamics of strategy tools-in-use

		Selection	Application	Outcomes
		There is no one right tool for each situation. The affordances of the tools as well as the bounded rationality and constrained agency of the actors who want to use them shape which tools are selected.	*Tools are applied improvisationally by organizational actors, both to interpret the strategic context and pursue preferences and interests.*	*Outcomes of tool use extend beyond the achievement of a strategic decision in an individual project, to individual, group, organizational, and field level considerations.*
Affordances of tools	*The interpretive flexibility of a tool is what makes it useful. Its affordances constrain and enable action and outcomes.*	**Arrow 1** 1.1. The selection of tools may be more dependent on organizationally standardized use than on the "fit" of the tool with the situation in the environment. 1.2. The selection of tools may be influenced by the degree to which they are simple and offer clear visual representations, where simpler tools are easier to remember and use. 1.3. The selection of quantitative tools is attractive to users because numbers can signal rationality, but this attractiveness is offset by potentially greater difficulty in using the tool.	**Arrow 3** 3.1. Tools provide a common language for strategic conversations between managers across hierarchical, functional, and geographic boundaries. 3.2. Tools create a space for social interactions about strategy at which actors can negotiate their different interests 3.3. The content and structure of the tool channel potential improvisations as the tool is used.	**Arrow 5** The "success" of the use of a tool at the organizational level can be measured by the degree to which: 5.1. It is adopted and routinized in organizational practice. The "success" of the use of a tool at the field level can be measured by the degree to which: 5.2. It diffuses and is widely adopted in management education. 5.3. It diffuses and is widely adopted by managers in organizations.
Agency of actors	*Actors select and use tools to cope with uncertainty in the environment, though this process may not be "rational" in the classical sense.*	**Arrow 2** 2.1. Actors may select tools based on satisficing. They pick the first tool that they know how to use (or are familiar with) that seems to fit the problem at hand. 2.2. Actors have more or less freedom to select a tool, depending on their position in the hierarchy (formal power). 2.3. Actors have more or less freedom to select a tool depending on their competence in its use (expertise power).	**Arrow 4** 4.1. Actors use tools as interpretive devices that enable them to focus attention on and make sense of strategic issues for themselves and for others. 4.2. Actors find it useful to marshal tools to legitimate particular positions or viewpoints 4.3. As actors work with tools, they adapt them to fit the needs at hand.	**Arrow 6** The "success" of the use of the tool for actors can be measured by the degree to which: 6.1. Its use provokes new explorations. 6.2. It enables interim decisions that allow a project or organization to move forward. 6.3. Their "client" is satisfied with the outcome of the project (internal client or consulting client). 6.4. They demonstrate competence. 6.5. Users achieve their personal objectives (legitimacy of position or ratification of a particular strategic choice). 6.6. Differences across actors are surfaced and resolved.

2.4.5- Strategy tools inventory

A number of studies have been carried out inventories of the usage of strategy tools in certain geographic areas. A comparative inventory of the tools prominently used by members of the strategic planning society in the UK and New Zealand was proposed (Clark, 1997), and showed that a wide variety of tools were used by practitioners. A similar study was carried out in Australia, Hong-Kong, Singapore, and Malaysia, this time focusing on a population of small and medium enterprises owners (Frost, 2003).

The former study showed a wide variety of usage applied to various strategy related tasks, while the second study's results displayed a more narrow usage in terms of tools with a particular concentration SWOT/PEST tools and budgeting techniques. These two studies proposed a sequence of tasks for strategy development and inventoried the tools that were used for each of these strategy tasks. It is important to note that the proposed sequence of strategic activities was linear and did not integrate the usage of strategy tools in social dynamics and cognitive constraints.

According to another study carried out in large corporations in Finland, an average of five different tools was used by executives involved in strategy work (Stenfors, Tanner and Haapalinna, 2004).

A longitudinal study started in 2000, proposed by the Bain Corporation was carried out to inventory globally the most prominently used management tools. Among these, a limited number of strategy tools are consistently ranked in the top ten of most used management tools internationally (Rigby, Bilodeau, 2013).

The recurring inventories were complemented by interviews aimed at identifying the nature of challenges and management priorities that were specific to each period (Rigby, Bilodeau, 2013). The permanence of strategy tools was contrasted with the changing character of management priorities and trends.

2.4.6- Concluding remarks

Strategy tools in use appear to mirror closely the considerations made on strategy development itself. In effect, rather than being solely rational and analytical tools aimed at helping decision-making (Section 1 of this literature review), strategy tools were shown to:

- be used beyond the specific context prescribed to them by design (Sections 1 and 2), which speaks to the notion of strategy as resulting from a creative process as well as that of emergent strategy;

- be used as a negotiation media and reflect the expression of power dynamics within the firm (Section 2), which speaks incrementalist description of strategy development;

- foster communication through the development of a broad common, yet evolving with time, understanding of strategic issues (Sections 2 and 3), which speaks again to the prominence of communication channels structure within the firm in incrementalism as determinants of strategy development and to the notion of social interpretive space framing the understanding of strategic related issues;

- provide a cognitive frame for individual appreciation of the strategic context, by allowing bounded rational actors to focus on certain aspects at the expense of others, and in that sense to mirror strongly the notion of articulated heuristics and the Darwinian dynamics of heuristic portfolio structuring (Section 3);

- be selected according to material, social, conceptual and political constraints, (Sections 2 and 3), thus mirroring the specificities of effectuation approaches to strategy privileged by entrepreneurs and the causational logics privileged by executives in large organisations;

- be creatively modified and adapted by actors or groups within the span of the tools' affordance (Section 3).

Without equating the usage of strategy tools to strategy itself, the argument defended in this report is that the type of usage made of strategy tools in a given

organisation reflects strongly certain characteristics of the strategy process within that firm.

Chapter 3- Research questions

3.1- Rationale

The literature review has demonstrated that approaching strategy from a practice perspective provided insight into the strategy development process. As a matter of fact, strategy tools, in their design, albeit the fact that their conceptualization may be inspired by empirical observation, are almost systematically the bearing fruit of specific theoretical considerations, of specific epistemological perspective (Farjoun, 2002).

These perspectives emphasized certain characteristics of strategy at the expense of others: we might think of the external environment at the expense of the internal dynamics of the firm, of the latter at the expense of the individual motivations of the members of the firm, of assets at the expense of people, of prediction at the expense of influence, of the static at the expense of the evolving, of the prescriptive over the creative, to mention but a few.

However, strategy tools in use, mirroring the strategy development process itself, displayed a much richer variety of functions than that of the application of technologies of rationality aimed at providing analytical frameworks and help in decision making. The literature has shown that the nature of strategy development encompassed a variety of characteristics.

It was proposed in this research that (1) these dimensions were also reflected in the characteristics of usage of strategy tools. It was further endeavoured that the following eight dimensions be considered to analyse strategy tools in use.

1. Analytical (An)
2. Prescriptive (Pre)
3. Individual cognitive framing (IF)
4. Social cognitive framing (SF)
5. Formal communication (FC)
6. Negotiation and politics (Pol)
7. Coordination (Coor)
8. Adaptability (Ad)

The aim of this research, beyond providing an inventory of strategy tools and of the usage that is made of them, was to contribute to the development of an analytical framework that could be applied to analyse strategy tools in use. In particular, it appeared of importance to explore the possibility of underlying relationships between the considered dimensions that would allow for their clustering around analytical concepts that may contribute to the development of a relatively simple analytical framework for strategy tools in use.

The resulting analytical framework would aim in particular at providing strategy tools profiles that would display the relative weight of the dimensions considered in the model. To that extent, and according to the proposition (1), these profiles may provide insight to the strategy development process as occurring within the firm, together with insight on the intrinsic attributes of the strategy tools, the relationship between the two being embedded within the notion of affordance.

3.2- Research questions and hypothesis:

The research questions that were addressed in this research were the following:

3.2.1- Research question 1

1. What are the strategy tools prominently used by South African decision-makers?

An inventory of strategy tools used by South African decision-makers will be carried out to answer this question.

3.2.2- Research question 2

2. What are the relationships between the eight variables proposed for analysing tools in use?
   This second question, which required a statistical treatment that went beyond simple inventory and observation, was complemented by the following hypothesis:

Hypothesis 1:

Ho: there is no significant correlation between the eight dimension proposed
H1: there exists a significant relationship between the eight dimensions proposed

3.3.3- Research question 3

3. What type of usage is made of the strategy tools used by South African decision-makers?

A usage profile of strategy tools used was proposed for each tool chosen by South African decision makers.

Chapter 4: Methodology

4.1- Research design and method

Research design is defined as a master plan aimed at determining the processes and methodologies to be used to collect and analyze information pertaining to the research project (Zikmund, 2003). The rationale for the research design is presented below.

Descriptive methods, on one hand, are commendable when the aim of a research is 'to portray an accurate profile of persons, events or situations' (Robson 2002, p.59). Exploratory methods, on the other hand, are valuable when there is a need to develop a better understanding of a phenomenon, to formulate insights or to establish the existence of a relationship between considered variables (Saunders &Lewis, 2009, p.171). Formulated differently, the latter type of method is deemed appropriate when the aim of a research project consists in the establishment of preliminary answers to research problems that are relatively new or unexplored (Leedy & Ormord, 2010).

The research questions stated in the previous section were aimed at determining what the strategy tools being used in South African companies are, and how much these tools are used to perform certain functions within a given organisation. Hence, the research we are concerned with was devised as a descriptive and exploratory one.

A survey was defined a positivistic method used to study a sample of a population allowing for inferences to be made on the population of concern (Hussey & Hussey, 1997). Survey methods were deemed most appropriate to answer "who", "what", "where", "how much" and "how many" questions types and were therefore appropriate for exploratory and descriptive studies (Saunders & Lewis, 2009, p.144). Furthermore, surveys were recognized to allow for the collection of large

amounts of data in a time efficient and economical way (Saunders & Lewis, 2009, p.144).

Quantitative research methods refer to the systematic empirical investigation of social phenomena via statistical, mathematical or numerical data or computational techniques. Our research was concerned with “what’ and “how much” question types and aimed at the study of a specific, relatively large population, the study of which is best carried out with the use of statistical analysis.

Therefore, the choice was made to use a survey-based, quantitative, descriptive and exploratory methodology for this research.

4.2- Questionnaire design

The questionnaire was composed of three major sections. The first section presented a number of dimensions along which the population could be categorized. Namely, the industry, size, age, ownership type and organisational structure of the respondent’s firms were recorded in order to obtain a proper description of the composition of the sample and infer the possibility and extent of generalisation to the population considered of a subset thereof.

Apart from serving for categorizing purposes, these elements were also envisaged as a device to discriminate possible frivolous responses: for example a response where a small size company would be associated with a matrix organisational structure would be excluded from the sample.

The second section presented a list of strategy tools from which the respondents were required to pick the three tools they deemed most important with regards to their handling of strategy related matters. There was no exhaustive or definitive list of strategy tools in the literature (Clark, 1997), and the list presented in this section is not exhaustive either.

The process followed to choose the items in the list was as follows:

- Firstly, the longitudinal study of Bilodeau and Rigby for the Bain & Company (Rigby & Bilodeau, 2009, 2011, 2013, 2015) was used as an initial repository. A selection process was undertaken by the researcher to exclude, among the most used management tools reported in the past 5 years, those that did not directly pertain to strategy and strategy practice.

- Secondly, this process was complemented by the integration of a number of frameworks developed within the major schools of academic research on strategy.

- Finally, the list was complemented with tools from the field of knowledge management to take into consideration the increasing number of important perspectives developed in the knowledge based view of the firm (Grant, R.M, 2006).

This process resulted in a list of 15 tools covering the various approaches to strategy considered in the literature review. The resulting list was composed of expectedly very common tools together with more exotic tools essentially employed in an academic context or with consultants who typically would vulgarize them for simplicity and efficiency of communication purposes.

The reason for such a mixture lied in the fact that it may have opened the possibility for possible usage similarities or distinctions between the common tools and the more technical ones beyond frequency only. The option to add a tool that would not be represented in the list was provided to the respondents. The listing of tools was randomized and the tools were presented in three columns in order to enhance the level of consideration of all tools presented before selection.

No definition or description was appended to presented tools for three reasons:

- Firstly, the tools presented encompassed, beyond possible detailed methodological frameworks, a number of concepts, approaches or frameworks

that can present a high level of complexity, and the exact understanding of which is often highly subjected to interpretation.

- Secondly some may have been used informally or unconsciously by respondents. The aim of the research was to consider only the tools that respondents make use of as tools, intentionally and purposefully. Omitting definitions allowed mitigating for opportunistic responses in instances where the description of a tool would have matched certain practices of the respondents while they would not necessarily be aware of its existence as a formal construct.

- Finally, the perusal of all the definitions and the related complexity may have represented a challenging and time consuming task that may have discouraged the respondent to complete the questionnaire and increased the risk of non-response bias (Choi, BCK, 2005).

The third part of the questionnaire was a series of closed question exploring the function that each selected tool served. The aim of this section was to assess the respondent's perception of the extent to which the tools they selected were used to perform the various functions considered in the literature review and in the formulated research questions.

A Likert type rating scale was used to measure each of these dimensions. Seven scores ranging from one to seven were proposed to the respondent, with the lower extreme representing a total disagreement while the higher extreme represented a very strong agreement to the proposed statement.

The data collected in the two first sections of the questionnaire was categorical while the data collected in the second section was ordinal.

4.3- Data collection

4.3.1- Unit of analysis

A unit of analysis was defined as the object, phenomenon, entity, process or event that a researcher is interested in studying. Four different types of units of analysis can be identified, namely individuals, groups, organizations and artifacts (Saunders and Lewis, 2012). In our instance the units of analysis were the individual CEOs, general managers, or top level executives involved in the strategy development process of their firms in South Africa.

4.3.2- Population

A population was defined as the complete set or group of members that the research is concerned with (Saunders and Lewis, 2012). The population considered here was the population of all CEOs, general managers, or top level executives involved in the strategy development process of South African companies.

4.3.3- Sampling method, sample size and data collection

A convenience sampling method was used to carry out this research. The survey was a self-administered questionnaire sent to a sample CEOs and general manager of South African companies. The survey was hosted on Survey Monkey, and distributed via email, and through publication on business social media. The

cover letter of the email presented the purpose of the research; a link to the questionnaire on Survey Monkey was integrated in the body of the covering text.

A number of benefits associated with electronic distribution of surveys have been emphasized in the research methodology literature. It has been deemed faster, associated with lower costs of distribution and processing, to have a lower turnaround time and a higher degree of flexibility. It also significantly mitigates handling constraints associated with the usage of paper (Zikmund, 2003).

The initial intention of the researcher was to carry out a case study research that presented a number of advantages in terms of detailed descriptive work that may lack with a survey method. However, this endeavour was rendered impossible due to significant access challenges: the fact that the focus of the study was on strategy and strategy related matters, often translated into a clearly expressed unwillingness to participate to the research. Respondent of the research were often extremely cautious in sharing strategy related information in much detail because such information was deemed valuable and confidential.

As a result, together with a reorientation of the research, the choice was made not to record either the identity of the respondents or the name of the companies they manage. This measure was adopted in order to mitigate the risks of an overly high non-response bias or the risk of purposefully inaccurate responses.

The survey distribution was made with the help of an email address directory of CEOs and general managers of South African companies that the researcher constructed for the purpose of this research as well as with the help of social network (LinkedIn) groups of entrepreneurs and business owners in South Africa. The directory was constructed by compiling all email addresses of CEOs and/or personal assistants of JSE and AltX companies that the researcher managed to gain access to, together with a directory of 152 unlisted companies; for the latter, the researcher undertook to ensure with social network groups owners that the selection process of members was strict and thorough in order to mitigate the risk

of frivolous response and ensure that the respondent matched the requirements of the research.

Considering that the sample was not random, and that each respondent were to provide information on three tools, a minimum of 50 responses was considered sufficient to clearly identify patterns of relevance to this research. In particular, a sample of 50 respondents would translate into the recording of 150 tools usage which amounted to a good size in terms of data adequacy considering the statistical methods that were used to answer to the second research question.

The data was collected over a period of two weeks and 54 responses were obtained in total.

4.3.4- Data analysis

The collected data was subjected to statistical exploratory methods. In particular frequency analysis was used to describe the sample as well as to proceed to an inventory of the tools used and of the types of usage made of each tool.

A variable reduction technique, namely a principal component analysis (PCA), was carried out on the usage variables with the SPSS software. A PCA is a statistical technique that aims at reducing the number of variables while maintaining sufficiently close levels of variability in the data considered (Joliffe, 2014). To that extent, it allows for the identification of underlying correlation between a numbers of considered variables and provides criteria for deciding whether or not variables presenting certain relationship characteristics can be clustered together (Joliffe, 2014).

In particular, the variables subjected to this process would be expressed as a linear combination of newly generated coordinates named components. A loading can understood as a measurement of the extent to which a given variable can expressed as a function of one component (Abdi, Williams, 2010). A situation in

which a subset of considered variables would present high loadings on a given component with limited loadings on the others would provide good criteria for clustering these variables as an expression of the components generated (Abdi, Williams, 2010).

The eight usage variables considered in this research were subjected to this process. In that regard, a series of tests were carried out in order to ensure the adequacy of the data to the PCA process. These tests pertained in particular to the size of the usage dataset, as well as to an assessment of the apparent correlations existing between variables, and the presence of outliers that would have negatively affected the accuracy of the results. The results of the PCA process were checked for satisfaction, in particular with regards to sufficient loading levels of each component on the variables considered, as well as the maintenance of sufficient levels of variance in order to ensure that no information significant information was lost in resulting construct.

The variables that presented sufficient loadings under the generated components were clustered and renamed. The resulting set of variables was used to provide descriptive profiles of the strategy tools considered in the research and chosen by the respondents. In particular, the means

4.3.5- Reliability checks

A questionnaire is deemed acceptable if the following conditions are respected: firstly, only necessary data is collected, and secondly, the data required to solve the problem is obtained (Zikmund, 2003). The sampling method used for this research as well as the design characteristics of the questionnaire were chosen in order to ensure that these two parameters are realized.

The questionnaire was submitted to three pilot respondents in order to ensure that no major understanding or structural issue was present. These complementary

checks were carried out in order to ensure reliability and validity. The issue of sensitivity related to the type of information communicated was mitigated by ensuring the anonymity of respondents and their company.

The PCA process typically requires very large datasets. Albeit the fact that the size of the usage dataset was checked for adequacy and was deemed sufficiently large for a PCA to be carried out, the possibility remained that the accuracy of results to be limited. As a result, and in order to compensate for that fact, only the loading factors of a value exceeding 0.5 were retained in the process.

The Cronbach's alpha is an index used to measure the extent to which the items of a scale-based questionnaire measure the same underlying factor. Once the usage variables were clustered according to the components presenting the highest loading levels on them, the Cronbach's alpha was calculated for each corresponding item group in order to corroborate the results of the PCA process.

4.3.6- Limitations

Firstly, the sample size was the primary limitation in this study. In particular, the data collected presented limited levels of normality. This was particularly true with regards to the usage data which in turn limited the extent to which the conclusions made on the sample could be generalized to the population considered.

Secondly, the data collection process was survey-based and anonymous. Although these two characteristics present certain advantages to the extent that they contribute to enhance the response levels, and that a number if precautions were taken to ensure that the respondents belonged to the population considered, the possibility remains that some respondents may have not belonged to the targeted population, hence limiting further the possibility of generalisation.

Thirdly, the data collection method pertaining to usage was scale-based. The survey questions were affirmative statement and may have contributed to subject

the respondents to an acquiescence bias, defined as a tendency to agree to survey statements. Besides, the respondents may also have been subjected to a social desirability bias, by reporting scores corresponding to an ideal behaviour and tending to over score behavioural questions that they may consider as desirable in the context of their profession- for example very strong component of analytics in strategy making.

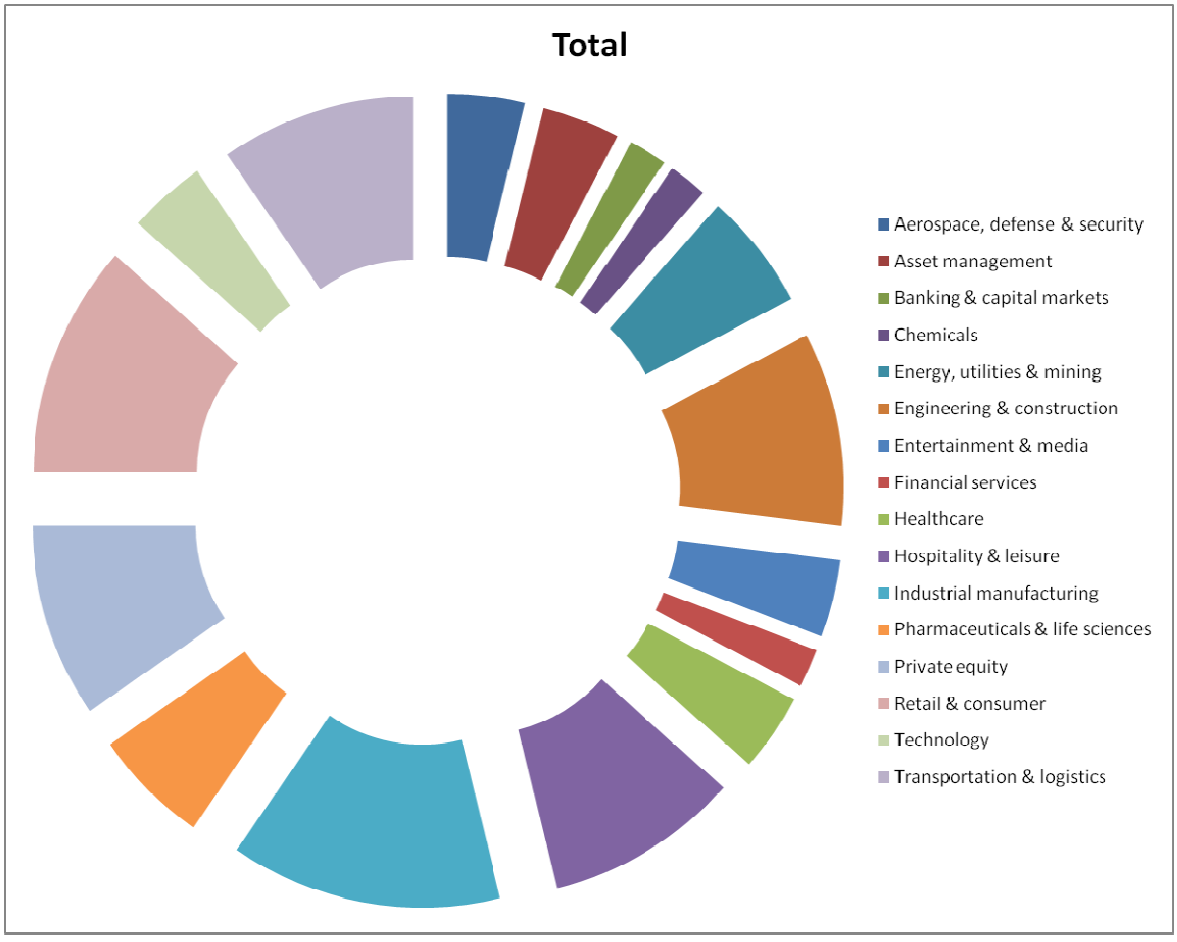
Finally, the research was constrained by the necessity to design a questionnaire of limited size to enhance response levels. Considering the fact that a relatively large number of variables were considered, only one item per variable was proposed to the respondents. Albeit the fact that the dimension reduction process contributed to diminish the number of variables, this may have affected the level of nuance in the description of the variables considered that may have been improved by a larger number of items per variable.

Chapter 5- Data presentation

5.1- Description of sample

The sample that was constructed was composed of fifty two full responses. A description of the characteristics of the respondents' firms was presented in the following section.

5.1.1- Industry



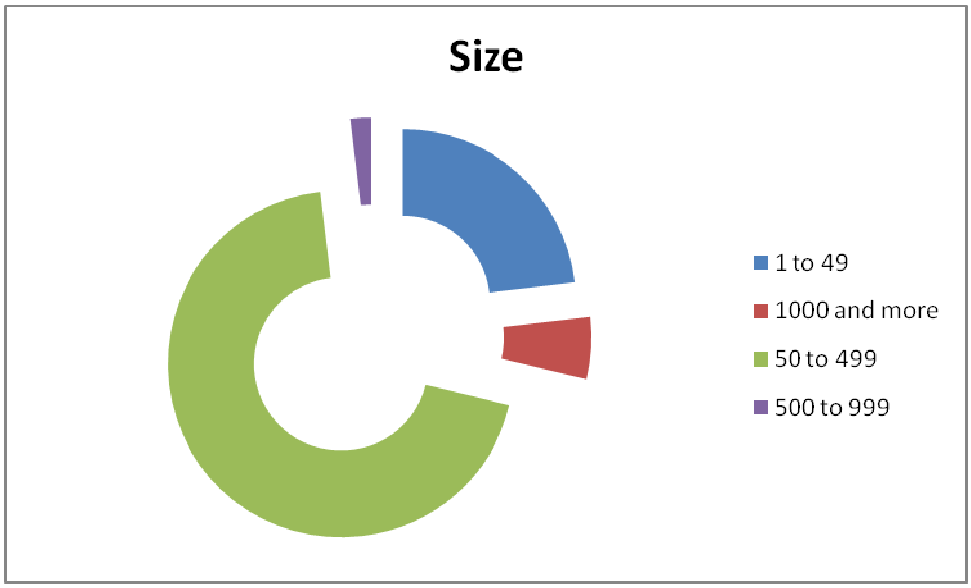
Among the twenty three industry categories proposed, sixteen were represented in the sample. Two industries, namely the retail & consumer and industrial manufacturing industries, accounted for more than ten percent of the sample while six accounted for five to ten percent of the total. The remaining eight industries were represented only up to less than five percent of the total.

Industry	
Industrial manufacturing	13.46%
Retail & consumer	11.54%
Engineering & construction	9.62%
Hospitality & leisure	9.62%
Private equity	9.62%
Transportation & logistics	9.62%
Energy, utilities & mining	5.77%
Pharmaceuticals & life sciences	5.77%
Aerospace, defense & security	3.85%
Asset management	3.85%
Entertainment & media	3.85%
Healthcare	3.85%
Technology	3.85%
Banking & capital markets	1.92%
Chemicals	1.92%
Financial services	1.92%

As a result, despite the fact that the distribution of the considered population is unknown and did not allow to infer the extent to which it could a match was present, the constructed sample provided a varied representativeness among industries and was not overly concentrated within a few specific ones.

5.1.2- Size and listing

Three size ranges were proposed to the respondents, namely small enterprises the size of which did not exceed 49 employees, medium-sized enterprises counting up to 499 employees, large enterprises of up to 999 employees and very large ones exceeding 1000 employees.

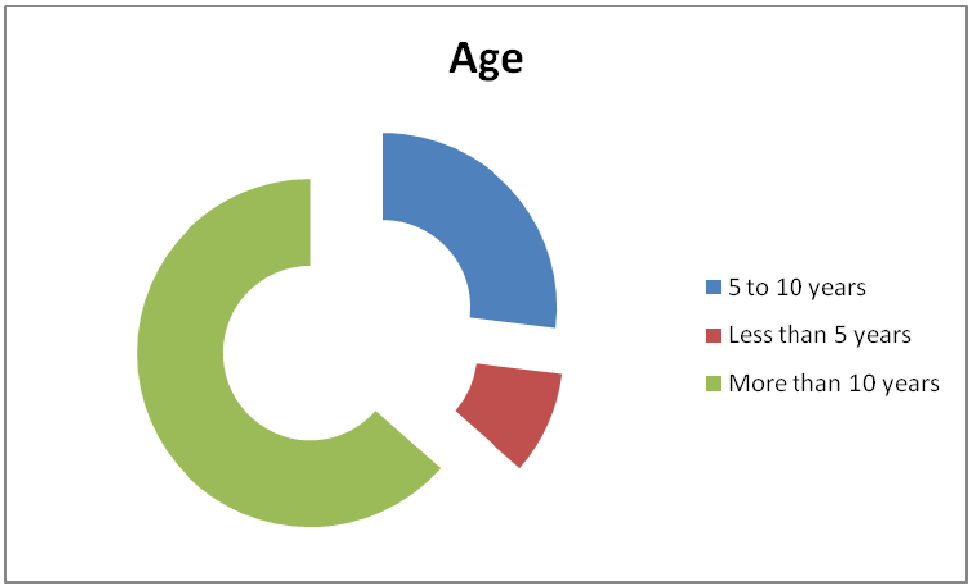


Size	Proportion
1 to 49	23%
50 to 499	69%
500 to 999	2%
1000 and more	6%

Large and very large enterprises were represented up to less than ten percent in the sample while small enterprises and the medium sized enterprises accounted for twenty-three and sixty-nine percent of the sample respectively for a total of ninety one percent of the respondent firms.

5.1.3- Age

The respondents' firms were categorized along three age ranges, namely less than five years of age, between 5 and 10 years of age and more than 10 years of age. The corresponding repartition is represented in the chart below.

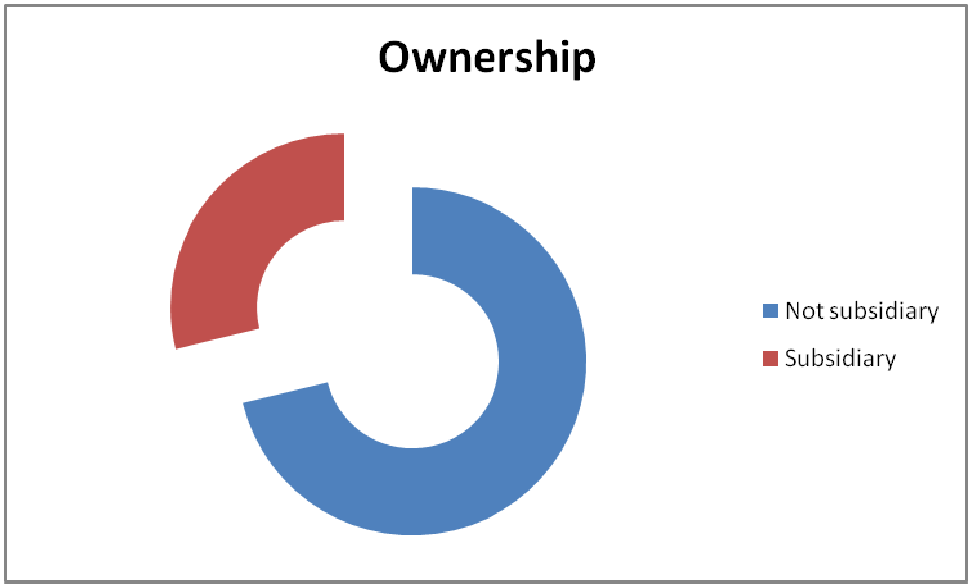


Age	Code
Less than 5 years	27%
5 to 10 years	10%
More than 10 years	63%

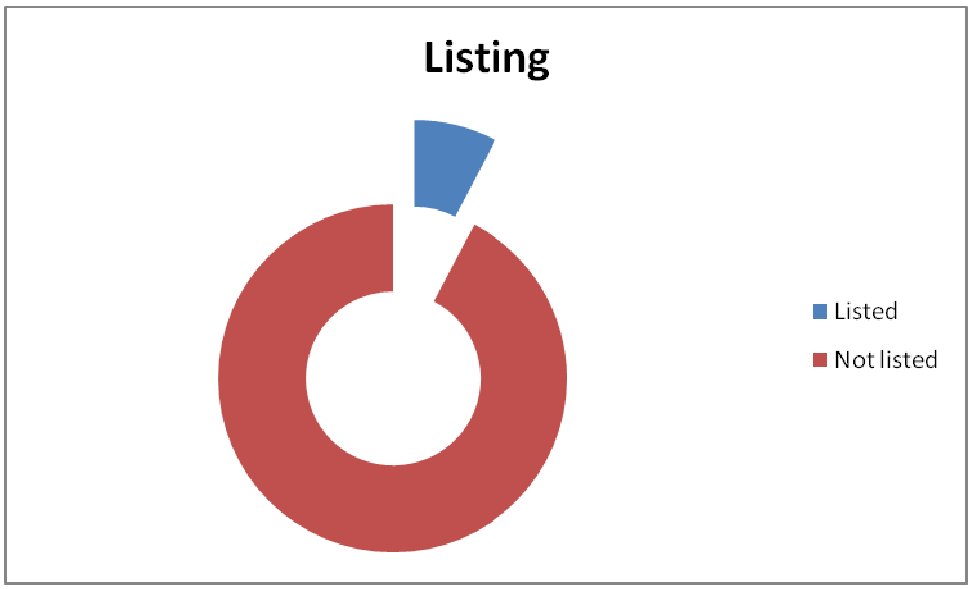
Hence the sample was largely constituted by mature enterprises while only few very young companies were represented.

5.1.4- Ownership type and listing

Only four respondent firms, which amounted for eight percent of the constructed sample, were reported as being listed. However, twenty-nine percent of respondent firms were subsidiary of holding corporations or large groups. The information as to whether the holding companies were or were not publicly listed is not known, and the possibility that some of the firms that were presented as not listed would be subsidiaries of listed entities is a possibility, especially among the largest firms.

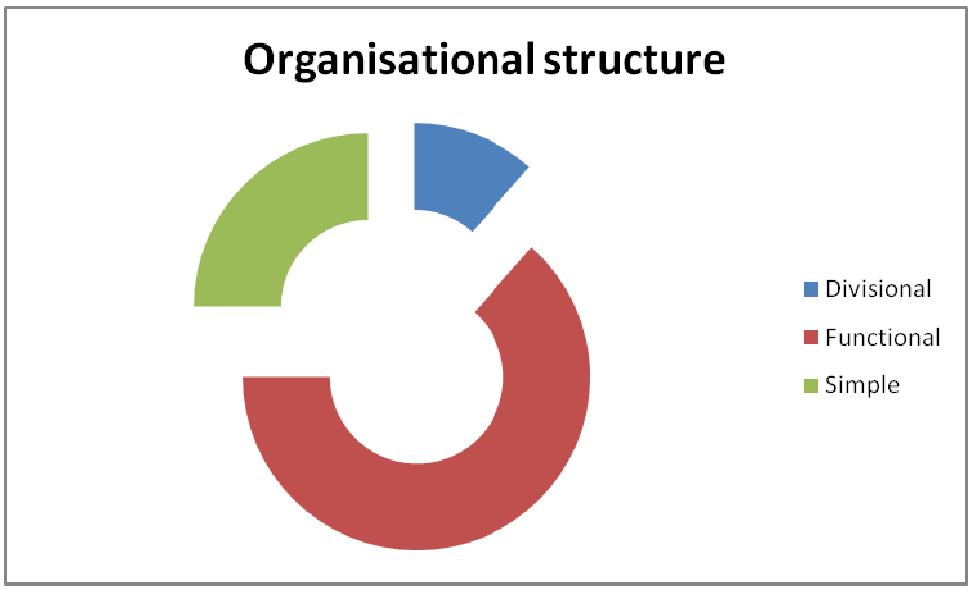


Ownership	Proportion
Subsidiary	71%
Not subsidiary	29%



Listing	Percentage
Listed	8%
Not listed	92%

5.1.5- Structure



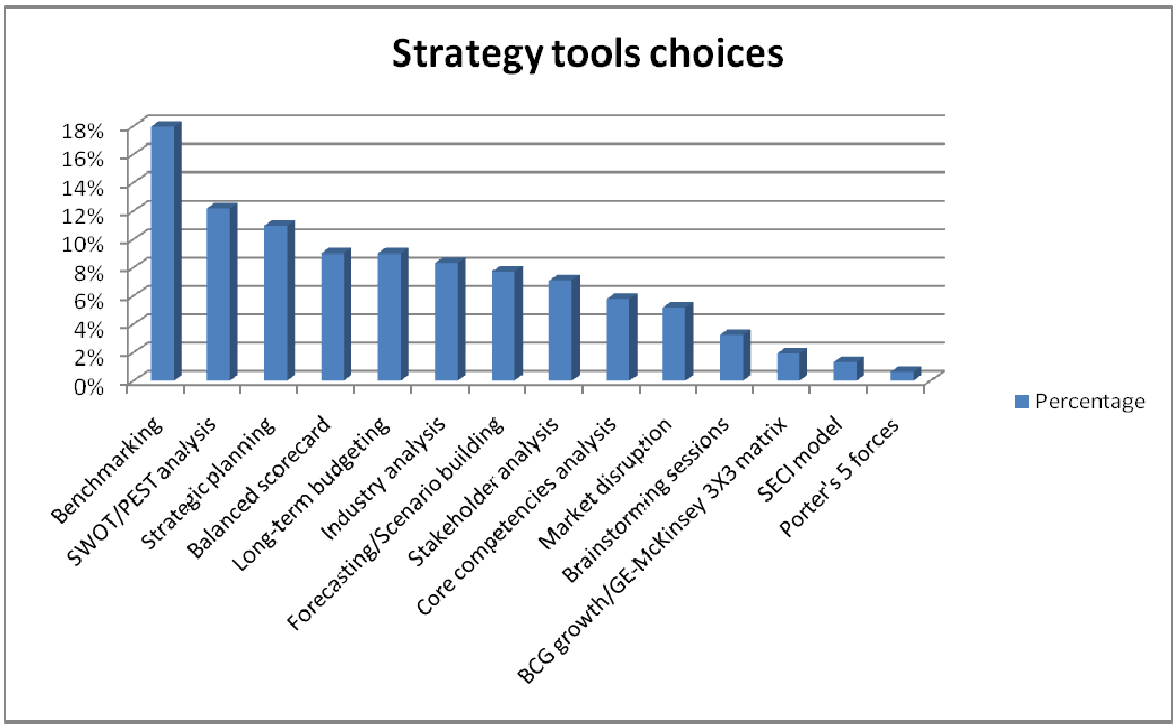
Structure	Percentage
Simple	12%
Functional	63%
Divisional	25%
Matrix	0%
Team	0%
Network	0%
Other	0%

Only simple, functional and divisional structures were represented in the sample. No firm displayed any more complex structure. The vast majority (sixty-three percent) of firms were described as having a functional structure, while twenty-five percent of firms indicated having a divisional structure. Simple structures were represented only up to twelve percent. These elements are consistent with the statistics presented on the size of respondent firms in our sample, the vast majority of which were medium to large enterprises.

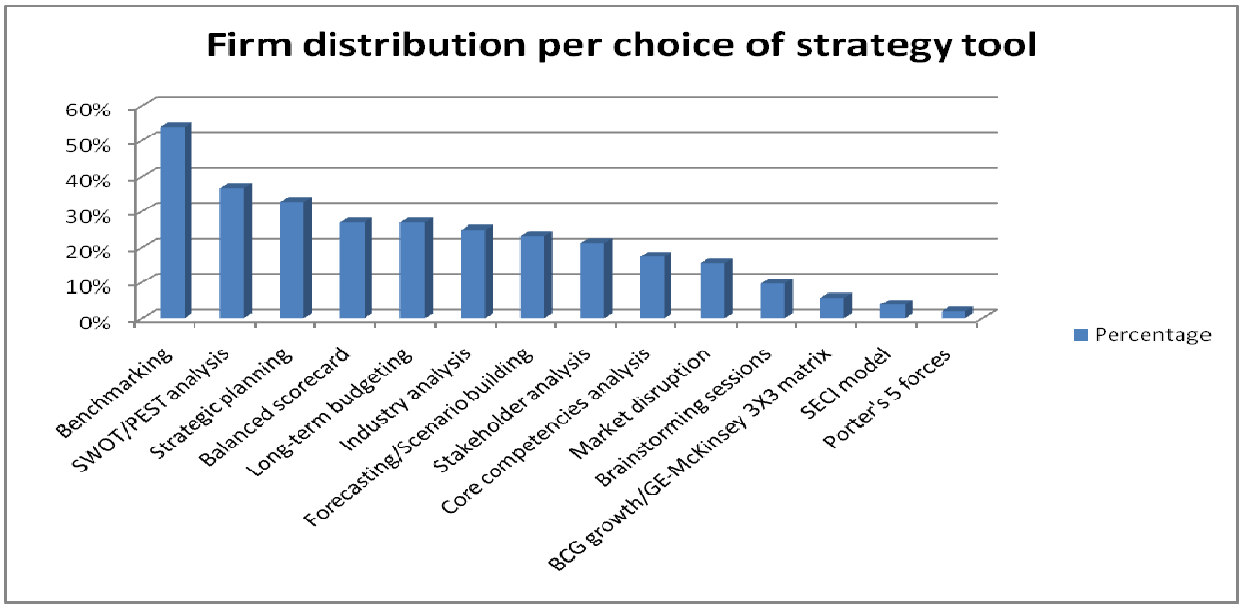
5.2- Statistics on strategy tools and their usage

5.2.1- Choices of strategy tools data- Question 1

Fourteen strategy tools out of the fifteen proposed were represented in the respondents' choices of tools. There was however a high level of disparity between the most used tools and the least used tools. In particular, very rare occurrences of the four least used tools were noted. These, together, accounted for less than ten percent of the respondents' choices, while the four top tools accounted for more than fifty percent of the respondent's choices.



These elements showed a high variety in tools usage with relatively strong disparities in frequency of usage that appeared in a flagrant fashion in the distribution of individual firm according to their choice of strategy tools.



Each of the top three tools were chosen by more than thirty percent of respondents while each of the four least used tools were chosen by less than 10 percent of the respondents.

5.2.2- Statistics on tools usage- Question 2

Correlation analysis and clustering of usage variables- Hypothesis 1

A principal component analysis (PCA) was carried out on the usage dataset in order to analyse levels of correlation between usage variables as well as to cluster highly correlated variables and remove redundant dimensions. In particular, the following hypotheses were tested:

> Ho: there is no significant correlation between the eight dimension proposed
>
> H1: there exists a significant relationship between the eight dimensions proposed

The process carried out was described in the following section.

Assumptions check:

The data set subjected to the PCA counted 8 variables/items for which 156 cases were recorded. The variables were continuous variables represented on a 7 intervals scale. Thus the data size presented a ratio of items to variables was close to 1:20 which is satisfied minimal size requirements for PCA.

The dataset was screened for univariate outliers that may affect the accuracy of the results. No outliers were identified and the dataset remained complete. A correlation factors matrix was generated as displayed below:

Correlation Matrix

		Pre	SF	FC	IF	Ad	Pol	Coor	Ana
Correlation	Pre	1.000	.516	.234	.387	.360	.229	.389	.340
	SF	.516	1.000	.269	.502	.481	.396	.348	.280
	FC	.234	.269	1.000	.104	.115	.606	.359	.415
	IF	.387	.502	.104	1.000	.374	.186	.038	.049
	Ad	.360	.481	.115	.374	1.000	.259	.281	.155
	Pol	.229	.396	.606	.186	.259	1.000	.391	.324
	Coor	.389	.348	.359	.038	.281	.391	1.000	.332
	Ana	.340	.280	.415	.049	.155	.324	.332	1.000

No variable displayed sufficiently low levels of correlation that would have led to their exclusion. At this stage all variable were kept. However, a review of the communalities matrix showed that two variables, namely the An variable and the Coor variables, displayed levels of communalities under 0.5. These two variables were excluded, and the PCA process was carried out with the remaining six variables. The resulting communalities matrix is presented below:

Communalities

	Initial	Extraction
Pre	1.000	.534
SC	1.000	.703
FC	1.000	.816
IF	1.000	.592
Ad	1.000	.530
Pol	1.000	.786

All the extracted communalities were found to be higher than 0.5, which was satisfactory for the PCA process to be pursued with these 6 variables.

The item to cases ratio changed to 1/26 after the exclusion of the two variables, which is still a satisfactory value for a PCA. The KMO measure for sampling

adequacy was calculated and presented a value of 0.727, which is in the acceptable range. Besides, the Bartlett's test of sphericity was computed and presented a signature value of .000 and allowed for the rejection of the null hypothesis that the correlation matrix was the identity matrix at a 95% level of significance.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.727
Bartlett's Test of Sphericity	Approx. Chi-Square	244.151
	Df	15
	Sig.	.000

The diagonal values of the anti-image correlation matrix were all clearly above 0.5, which contributed further the support the inclusion of all variables.

Anti-image Matrices

		Pre	SF	FC	IF	Ad	Pol
Anti-image Covariance	Pre	.687	-.191	-.089	-.109	-.092	.036
	SF	-.191	.524	-.014	-.190	-.161	-.119
	FC	-.089	-.014	.616	.027	.061	-.336
	IF	-.109	-.190	.027	.707	-.108	.003
	Ad	-.092	-.161	.061	-.108	.722	-.078
	Pol	.036	-.119	-.336	.003	-.078	.565
Anti-image Correlation	Pre	.799[a]	-.319	-.136	-.156	-.130	.058
	SF	-.319	.756[a]	-.024	-.312	-.262	-.219
	FC	-.136	-.024	.595[a]	.041	.091	-.569
	IF	-.156	-.312	.041	.801[a]	-.151	.005
	Ad	-.130	-.262	.091	-.151	.816[a]	-.122
	Pol	.058	-.219	-.569	.005	-.122	.635[a]

a. Measures of Sampling Adequacy(MSA)

A review of the initial eigenvalues and factor loadings was performed. All eigenvalues, except for the Pol and Ad, were above a value of 0.5. All variables

explained at least 5% of the variance of the dataset, while the first two components accounted for more than 65% of the variance of the dataset.

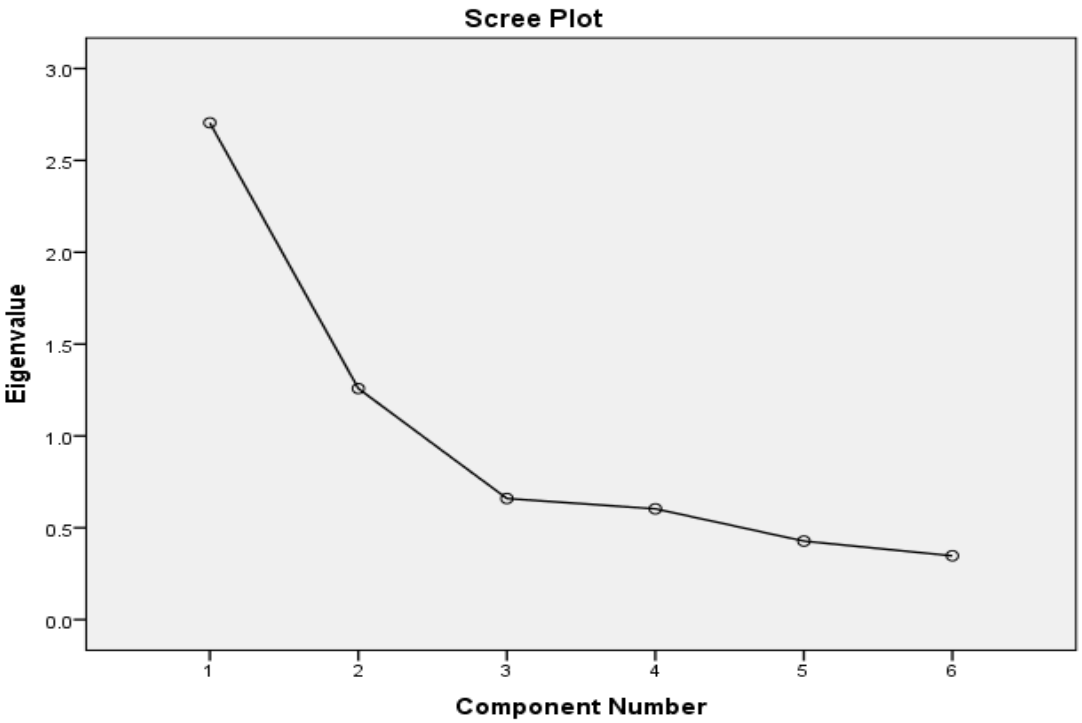
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2.705	45.079	45.079	2.705	45.079	45.079	2.470
2	1.258	20.963	66.042	1.258	20.963	66.042	1.868
3	.659	10.989	77.031				
4	.603	10.050	87.081				
5	.428	7.128	94.209				
6	.347	5.791	100.000				

Extraction Method: Principal Component Analysis.

The variables with initial loading under 0.5 were kept because of their importance in the interpretation of the results that was exposed in chapter 6. These two variables further presented significant correlation (with loading above 0.5) levels with principal components that were extracted at the term of the analysis.

Considering the elements provided above, and the overall satisfactory indicators, the PCA analysis was conducted with the 6 remaining variables. As stated, two principal factors were extracted.



The scree plot test showed that the two principal components both had eigenvalues above the unit. Furthermore, the components had significant loadings on all six variables treated, with loading values above 0.5.

Component Matrix

	Component	
	1	2
Social framing	.820	
Prescriptive	.694	
Adaptability	.654	
Individual framing	.646	
Political	.645	.608
Formal communication	.538	.726

Extraction Method: Principal Component Analysis.

Two types of rotations were carried out, namely a Varimax and Direct Oblimin, that are respectively an orthogonal and an oblique rotation. All loadings below 0.5 were excluded from the report in order to compensate for the limited size of the dataset.

The two rotations displayed similar results with the first component loading significantly on the SF, IF, Ad and Pre, and the second factor loading significantly on the FC and Pol variables.

Rotated Component Matrix

	Component	
	1	2
SF	.786	
IF	.770	
Ad	.724	
Pre	.708	
FC		.901
Pol		.860

Varimax

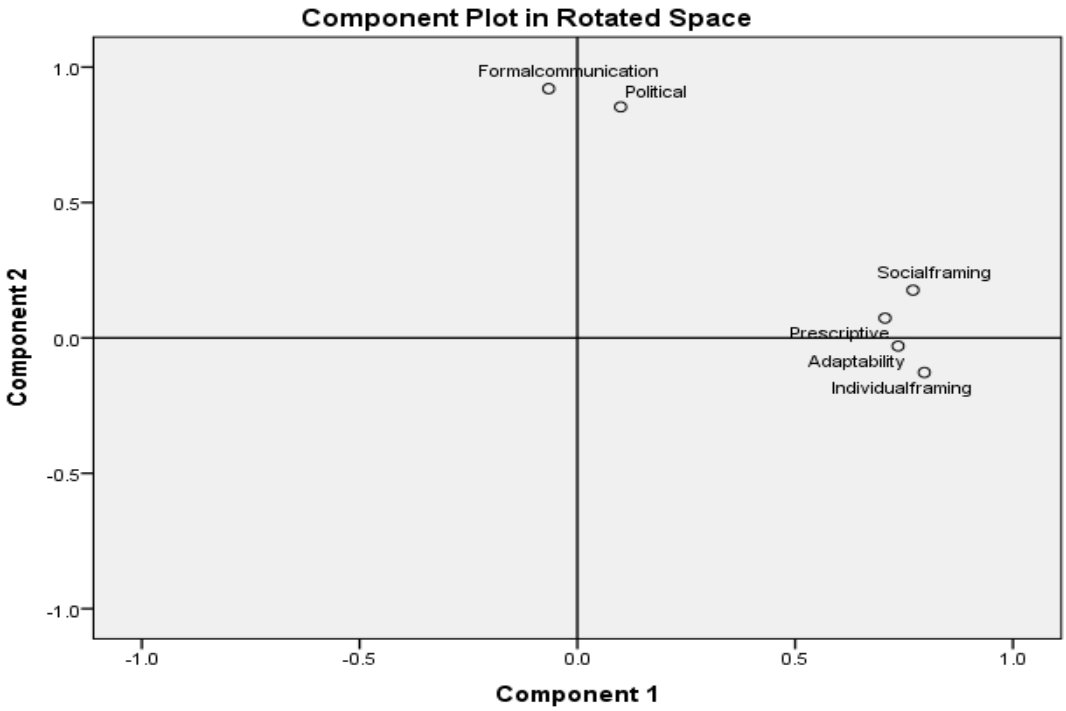
The ranks of the two variables with the highest loading from the first component, namely SF and IF, were inverted in the orthogonal and the oblique rotations.

Pattern Matrix

	Component	
	1	2
IF	.797	
SF	.771	
Ad	.736	
Pre	.706	
FC		.920
Pol		.853

Oblimin

The results of the oblique rotation presented higher levels of proximity between the variables in each component and were privileged considering the objective of this PCA.



The results of the PCA process showed significant correlation levels between the four variables in the first component and the two variables in the second component. As a result the null hypothesis associated with the second research question was rejected.

The Cronbach's alpha was calculated for each of these two groups of variables to confirm the existence of an underlying factor. The values of the Cronbach's alpha were 0.744 and 0.754 which is a fairly good result corroborating the existence of an underlying factor.

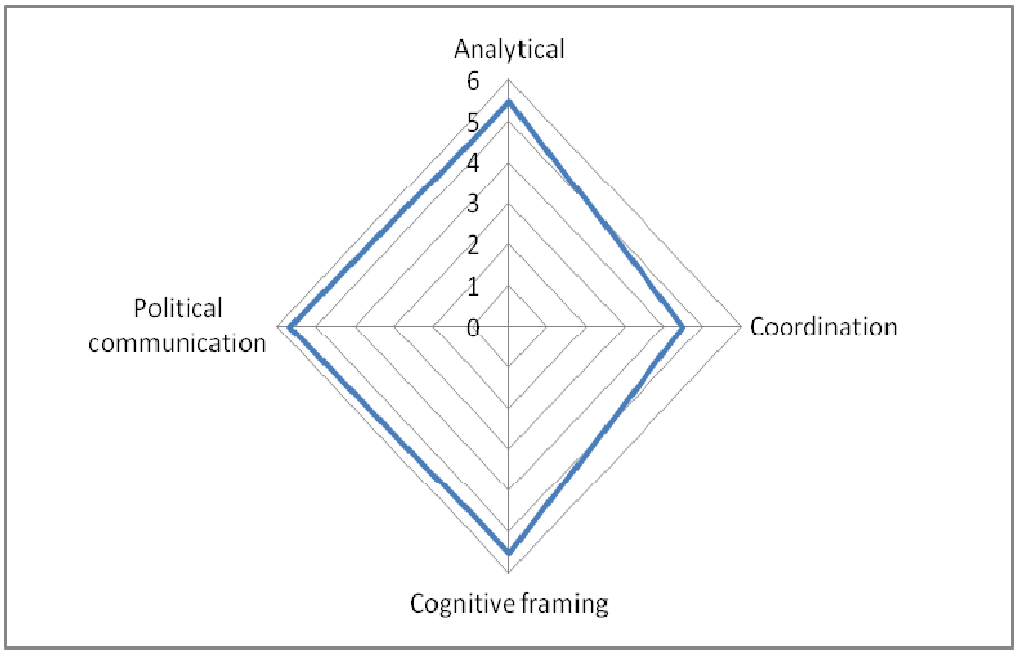
These variables were combined into two components by calculating the score means of each group of variables for each case. The group with highest loadings from component one was named Social Cognitive framing while the group having highest loadings from the second component was named political communication.

The reasons for these appellations were clarified in the interpretation of the resulting clustering in Chapter 6.

Further, a correlation matrix was generated for the two variables not included in the PCA process. The matrix showed a value of 0.332 that was interpreted as a limited level of correlation. The four resulting variables were used to establish usage profiles of the strategy tools reported in the survey.

5.3- Strategy tools usage profiles- Research question 3

The mean values of each usage type scores was calculated for all strategy tools grouped in one single category. The results of these calculations were represented graphically in a radar chart.



The resulting chart showed that the political communication function was the most important use made of the strategy tools, with analytical and Social Cognitive

framing as close seconds. The coordination function was positioned last with the lowest score.

A similar chart was constructed for each individual tool. The resulting charts presented very similar results in general, with relatively high usage values for all four functions albeit some variations in the relative importance of the four types of usage considered. The radar charts for each tool are reproduced in appendix 1.

Chapter 6- Interpretation of the data

6.1- Discussion on the distribution of strategy tools

In this section, the four most used tools frequency of usage were interpreted and contrasted with some of the lesser used tools. The least used tools were left out of this interpretation section.

6.1.1- Interpretation and discussion on tool selection results

The strategy tools that were most chosen are represented in the table above and ranked according to frequency. Benchmarking and strategic planning were among the three most widely chosen strategy tools. This result was consistent with the

elements reported in the Bain & Company longitudinal study results (Rigby, Bilodeau, 2013). The results on benchmarking were contrasted with the lesser popularity of more formal tools of industry screening in particular. Porter's 5 forces was chosen only one percent of the time, the matrix-based strategies represented less than 5% of choices, while forecasting/scenario building and industry analysis spoken of broadly were chosen a little under 8% of the time.

Keeping in mind the limitations related to the size of the sample, an interpretation of this may be found in the notion of affordance (Jarzabkowski, Kaplan, 2015). The sample was essentially composed of small and medium enterprises. Formal industry analysis is typically a demanding and costly exercise, requiring significant resources to be allocated to data gathering, structuring and interpretation as well as, likely, consulting fees. Benchmarking direct competitors or simply complying with best practices in a given industry may have provided insight on industry constrains more economically.

Besides, the decision to allocate resource to an industry analysis exercise while benchmarking data would be more readily available speaks to the notion of agency constraints that is part and parcel of the affordance framework (Jarzabkowski, Kaplan, 2015). Keeping in mind the importance of politics in strategy-making in general and in resource allocation related issues in particular (Quinn, 1980), industry analysis may be a difficult endeavour to justify, in particular with regards to its high opportunity cost, especially in small to medium firms where resources may be limited. Besides, invoking the decision-makers' agency (Jarzabkowski, Kaplan, 2015), the conclusions of strategy analysis may be open to a wide range of possible interpretation and courses of action and by the same token, to higher levels of risk in decision-making, which have been shown to be avoided in uncertain environments (Tversky, Kahneman, 1979), and very cautiously considered in strategy-making (Quinn, 1980).

The related tools of long-term budgeting and forecasting/scenario are typically projections based on environmental assumptions expected to affect revenues in certain ways. Considering the affordance in the selection phase of the strategy tools-in use affordance framework, and the fact that these tools are typically presented using mathematical models, their selection may be the related to the fact that they convey a sense of expertise and control (Jarzabkowski, Kaplan, 2015). Besides, the language for these tools often takes the form of financial statements which can be assumed to be understood by management professionals in general. These two elements would point to a combination of ease of use, familiarity in terms of language as well as expert ethos signaling translating into these tools being used fairly widely and relatively more than tools requiring higher familiarity with uncommon technical aspects.

The popularity of the SWOT/PEST tools is consistent with the inventory researches carried out in New-Zealand and the UK (Clark, 1997) on the one hand, and Australia and Southern Asia on the other hand (Frost, 2003). The latter research shared with the present one the common characteristic of having surveyed essentially small and medium enterprises. As indicated above with regards to the benchmarking tool, SWOT/PEST analysis are tools presenting a high level of flexibility regarding their application, as well as the extent to which their usage would be associated with in depth data-based analytical endeavours.

The affordance framework on selection posits that the flexibility of a tool and its being readily available is a strong contributor of it being selected. Furthermore, SWOT/PEST analysis presented the advantage of being an efficient communication tool being widely used in discussions on strategy (Hill and Westbrook, 1997). The popularity of this tool may be interpreted as resulting from its affordance quality of being flexible, adaptable and a convenient communication tool (Jarzabkowski, Kaplan, 2015).

SWOT/PEST's wide usage may be contrasted with the lesser usage of core competencies analysis and stakeholder analysis. Both the latter tools are potentially overlapped by the scope of SWOT/PEST analysis, but their application requires higher technical expertise and familiarity with relatively complex assessment frameworks.

Strategic planning and balanced scorecards were the third and fourth most selected tools. Strategic planning was selected with balanced scorecards in 40% of instances showing that these tools were often used in conjunction. Both these tools present a number of common characteristics: they are based on the construction of performance indicators and the determination of quantitative standards of performance and as such, signal rationality and control, which is a strong determinant of selection in the affordance framework. Their standards of usage is determined at the top level of the organisation and, considering their wide span of application, they contribute to concentration of power and control fostering the agency of higher level executives (Mintzberg, 1994). They further provide a standardized language allowing for difference across actors to surface and be resolved (Jarzabkowski, Kaplan, 2015). The wide usage of these strategy tools may thus be explained by their conveyance of rationality and expertise ethos while fostering the agency of powerful actors in allowing for the monopolisation of decision-making power at the expense of less powerful actors (Mintzberg, 1994).

6.1.2- Interpretation and discussion on grouped use of strategy tools

All respondents reported usage of three strategy tools. The survey did not allow for the selection of more than three tools. And the possibility that the number of tools used per respondents may be higher is quite likely. This result is consistent with the three research projects inventorying strategy tools referred to in the literature presented in this paper (Clark, 1997; Frost, 2003; Stenfors, Tanner and

Haapalinna, 2004). The average scores made of each function reviewed indicated significant levels of usage of all tools in all instances with scores above four out of seven. No systematic pairing was found between tools.

The literature on heuristics showed that decision-makers, including in a strategy context, constructed opportunistically portfolios of heuristics that were tested, retained or abandoned after experimentation, and articulated as experience did grow (Bingham and Eisenhardt, 2011). The affordance framework posited that the selection of strategy tools was determined by the standardized practice within a given organisation, but also opportunistically. Besides, the usage of strategy tool was informed with the level of expertise with which actors were able to use a given tool, thus expanding the scope of its affordance (Jarzabkowski, Kaplan, 2015). Articulated strategies were defined as a set of rules that informed and structured the decision-making process. To that extent, it was considered a reasonable argument to consider strategy tools as similar to, or a form of articulated heuristics.

As such the combined grouped usage of strategy tools and their possible combination resulted from a similar process as that of heuristics, from opportunistic selection followed by a Darwinian selection process based on experimentation within the social context that constitutes the firm and the environmental context that constitutes the industry. This assimilation of strategy tools to articulated heuristics also provided interpretation for the fact that strategy tools were reported to be adapted to match the specificities that the respondent firms faced with an average score above 4 out of 7.

6.2- Discussion on the clustering of usage variables- Research Question 2

The PCA process carried out on the eight variables considered to describe the type of usage made of strategy tools allowed for the clustering on 6 of these into two aggregated variables.

1. Analytical (An)
2. Prescriptivism (Pre)
3. Individual cognitive framing (IF)
4. Social cognitive framing (SF)
5. Formal communication (FC)
6. Negotiation and politics (Pol)
7. Coordination (Coor)
8. Adaptability (Ad)

Namely, the dimensions pertaining to politics and negotiations (Pol), and formal communication were clustered under a new variable named Political Communication (PC), while the variables pertaining to adaptability (Ad), to social cognitive framing (SF), individual cognitive framing (IF) and the last one measuring the extent to which tools were used as prescriptive devices (Pre) were clustered under a new variable named Social Cognitive framing (SCF). The literature on strategy development was be used to provide an interpretive framework that may explain the reasons underlying the observed variables correlations that allowed for their clustering.

Political communication

Incrementalism theory placed strategy development in a political context in which strategic choices were shaped by the expression of power of competing groups (Quinn, 1980). The critical literature on strategic planning posited that the most important function accomplished by strategic planning as a method was that of positioning strategic decision-making power within a specific, monopolized, locus within the organization (Mintzberg, 1994).

Besides, the affordance framework applied to strategic tools showed that the agency of actors in terms of strategy tool selection was more or less constrained depending on their position in the hierarchy, on the extent of their power within the organisation. The same framework provided that, in their application, strategy tools provided a common language as well as a discussion space within which strategy related issues could be discussed and negotiated between powerful stakeholders.

It also provided that acceptable outcomes of usage of strategy tools may lie in the validation of a given course of action, but also, and independently of the former outcome, simply in the demonstration of competence or the achievement of personal objectives ranging from the legitimization of one's position: the ratification of a strategic choice could be interpreted as a victory in the context of a power struggle (Jarzabkowski, Kaplan, 2015).

Within such a context the relationship between the extent to which strategy tools are used as a formal communication device and the extent to which they are used as a language for discussion and negotiation on strategy related issues can be interpreted clearly. Strategy tools are part and parcel of the language space within which strategy development envisaged as the result of a political struggle between powerful actors takes place.

Beyond the informal aspects of communication that have been shown to be of tremendous importance in the strategy development process (Quinn, 1980), strategy tools are the formal language in which political dialectics can be expressed in a formal manner. Hence the name given to the construct linking the political and negotiation variable and the formal communication variable in one single construct: that of political communication (PC).

A tentative definition for political communication could be drawn from the field of political sciences where it is defined as a sub-field of political science and communication that deals with the production, dissemination, procession and effects of information, both through media and interpersonally, within a political context. This definition may be seen as adequate for our purpose to the extent that its scope would be limited to organizational or firm related issues.

Social Cognitive framing

Four other variables pertaining to the usage of strategy tools were shown to be strongly correlated and clustered within a new variable named Social Cognitive framing (SCF). These variables measured respectively the extent to which strategy tools were used to frame individual thinking on strategy (IF), the extent to which strategy tools were used as media for common understanding of strategic issues (SF), the extent to which strategy tools were adapted to match the firm's contexts (Ad), and finally the extent to which strategy tools were used to define prescriptive courses of action (Pr). These four variables were shown to be highly correlated and were clustered within a construct that was named Social Cognitive framing (SCF).

While the clustering of individual and social cognitive framing variables may have appeared natural, the first element of surprise in that clustering was the higher correlation existing between the (Pr) variable and the three others, at the expense of the variables measuring the extent to which tools were used to carry out analytics (An) or for task allocation and coordination (Coor) purposes. It was undertaken to the expose an explanatory framework for that clustering.

The literature presented on the cognitive perspective on strategy development showed that the evolutionary constitution of a heuristics portfolio within a given firm was the result of the opportunistic selection of heuristics that in turn were subjected to a second selection process, Darwinian this time, within the firm envisaged as environment (Bingham, Eisenhardt and Furr, 2007). The firm seen as a group or a set of groups selected specific heuristics according to their preferences thus reinforcing their usage while discarding others that would not match their agency objectives (Wiltbank, Dew, Read Sarasvathy, 2006; Maitland, Sammartino, 2015). The relationship existing between the individual proposing a heuristic combined with the group selection process that occurred subsequently within the firm provided the link between individual framing and social framing and

allowed to set a micro-foundation to strategy development (Maitland, Sammartino, 2015).

Besides the obvious relationship that this process appeared to share with evolutionary approaches to strategy theory (Burgelman, 1984; Farjoun, 2002), and assuming the assimilation that was made earlier of strategy tools in use to heuristics, strong commonalities appeared between the heuristics selection process and the strategy tool affordance framework (Jarzabkowski, Kaplan, 2015). The language of affordance allowed for the assimilation of individual and group selection of heuristics to actors within the firm expressing their agency in selecting strategy tools.

One criterion according to which a tool was defined as successful lied specifically in its wide adoption once introduced by an individual or a group of individuals (Jarzabkowski, Kaplan, 2015). Keeping in mind that heuristics and articulated heuristics in particular, by definition, constitute a set of rules the role of which lies in providing criteria for decision-making in ambiguous environment, the link between strategy tools as heuristics and the definition of prescriptive courses of action could be grasped (Bingham, Eisenhardt and Furr, 2007).

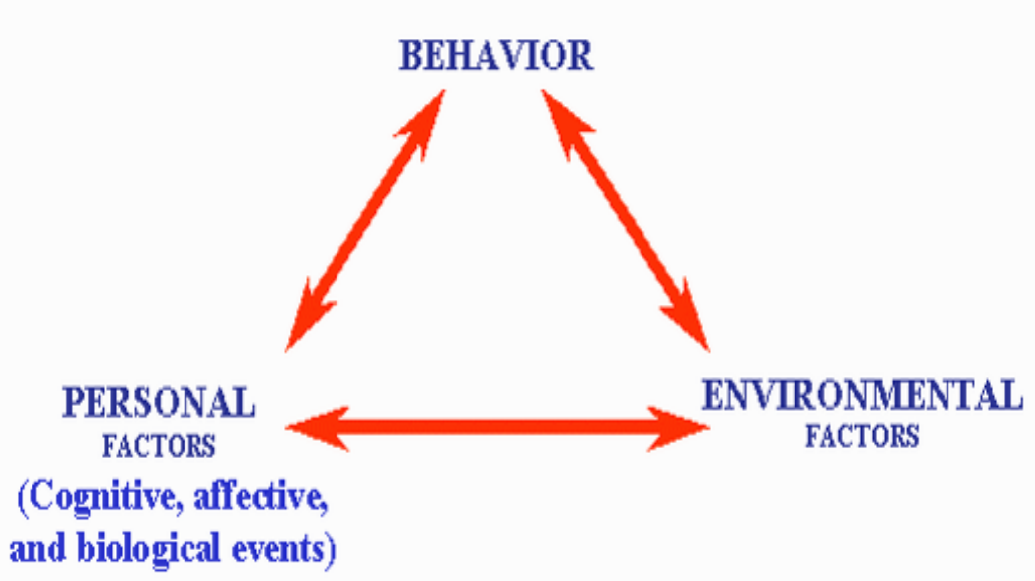
The term “prescriptive” is not to be understood as an exact sequence of actions -or a process to determine such a course- to be undertaken as would be the case in formal strategic planning for instance (Ansoff, 1984). Rather it should be envisaged as the establishment of a set of framing rules that would allow for determining what would be seen as the “right” decision in ambiguous situations in a systematic manner. The relationship between the determination of prescriptive courses of action and the individual and social cognitive framing of strategy tools then became apparent: the interplay of individual and social selection of strategy tools according to the agency of actors allowed for the specification of the usage rules of strategy tools that in turn framed decision-making in ambiguous environments- in other word provided criteria for satisficing (Simon, 1955) - and informed action. In that sense a strategic change for instance, would not be a change in course of action of strategy tools, but rather a change in the rules

according to which strategy tools inform decision criteria and as a result the pattern of subsequent actions.

The integration of the variable measuring the extent to which tools were adapted to fit firm-specific requirements (Ad) in the clustering was interpreted along the same lines. The assimilation of strategy tools-in-use to articulated heuristics allowed for the former to be seen as integrated in a portfolio that was refined over time to correspond to the conditions in which the firm evolved (Bingham, Eisenhardt and Furr, 2007).

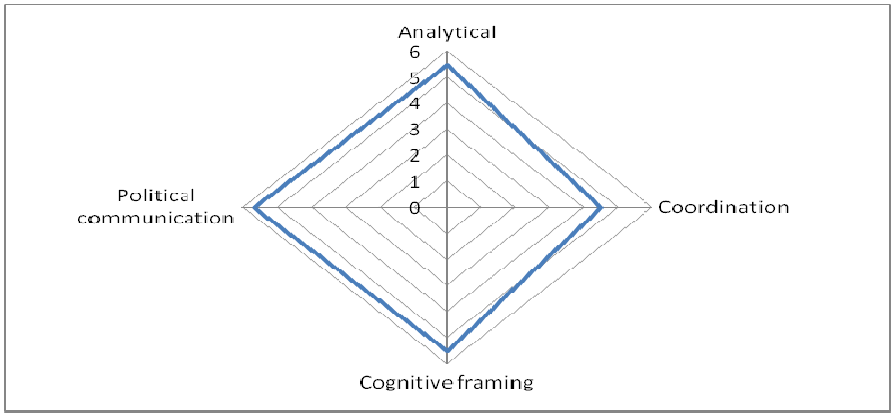
Besides, the affordance framework stated that the usage of strategy tools was amply subjected to improvisation in their usage, and subjected to a selection process leading to their either being discarded or widely employed within a given organisation (Jarzabkowski, Kaplan, 2015). These elements were consistent with the results obtained in several research projects inventorying strategy tools and according to which their usage covered a span much wider than their intended usage by design (Clark, 1997; Frost, 2003; Stenfors, Tanner and Haapalinna, 2004). Strategy tools-in-use are strategy tools applied to the firm's specific environment, not applied according to their purpose by design.

The Social Cognitive Theory (SCT) (Bandura. 1986), posits that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behavior. It may be proposed, in the context of this research, to define Social Cognitive Framing (SCF) as the decision-making framing resulting from the reciprocal interaction of personal, behavioral and environmental factors within the scope of the organisation or the firm.



6.3- Discussion on the usage types made of strategy tools- Question 3- and concluding remarks

Strategy tools, regardless of their specificities were shown to be used extensively for all four usage types considered, namely for political communication, social cognitive framing, analytics and coordination. The possibly unexpected result of this survey was in fact that on average and for almost all tools, the political communication and social cognitive framing functions had higher scores than the analytical and the coordination functions.



The sample was quite homogeneous in terms of firm size and industry diversity, but was also of limited size, and the usage data were quite skewed and presented a limited level of normalcy, calling for prudent generalisation.

The three research questions that were tackled in the context of this study were covered, hypothesis 1 was tested and interpreted, and major characteristics of strategy tools have been presented.

Chapter 7- Conclusion

7.1- Principal findings

7.1.1- Strategy tool usage

Albeit the fact that the purpose of strategy tools is determined by design towards function that in general are orientated towards analytics and coordination, strategy tools-in-use appear to match closely the characteristics of the strategy development process in all its complexity. These were shown to encompass in political dynamics (Quinn, 1980; Mintzberg, 1994), and decision-making in a social context in which satisficing prevails over optimization (Simon, 1955).

Strategy tools, despite the fact that their design would be that of technologies of rationality (March, 2006) aimed at enhancing the decision-making process towards an unattainable, ideal, purely rational nature, were shown, as tools-in-use to be embedded in the strategy development process as a whole, encompassing its systemic nature, emerging from the interaction of agentic, boundedly- rational actors (Farjoun, 2002; Simon, 1955).

Without discarding the major role that strategy tools play as technologies of rationality and coordination devices, ignoring their function as the political communication and social cognitive devices that they are used to perform appears as a fundamental design flaw in light of the results of this research. The exclusive focus on rationality- that is always limited by definition- and analytics, at the expense of social and behavioural dynamics and the performance of communication embedded in political considerations could be seen as repetitive attempts at constraining the practice of strategy within a mould in which it only partially fits it and that ends up filling with the ignored aspects in all instances anyway. To quote Sarasvathy, behaviourally speaking, strategic management is

the art if dealing effectively with the challenges of bounded rationality in a changing and uncertain environment (Augier, Sarasvathy, 2004)

7.1.2- Methodology

The results of the PCA process provided with important insights in establishing relationships of interest between variables that allowed for the construction of new clustered constructs the interpretation of which pointed towards the exploration of phenomena that have been studied extensively outside the field of strategy research. Political communication on one hand is well developed subfield of political sciences the results and methods of which may contribute significantly to the study of strategy.

The construct achieved in this research that was referred to Social Cognitive framing pointed to the Social Cognitive Theory that embeds actors and their patterns of actions within a triumvirate of interacting factors that are the environment, the personal and the behavioural (Bandura, 1986). Such bridges between different fields in the academic literature are important in that they may contribute to provide a foundation for the enrichment of strategy research by the application of methodologies and concepts from other fields that are well developed and articulated.

Besides, the results of the PCA, despite the limitations in scope of this research, have shown the relevance of survey methods and statistical analysis in exploratory research beyond confirmatory endeavours.

7.2- Implications for management

The major implication for management would be found in the fact that the application of strategy-tools as per the book is not necessarily commendable. There is not necessarily a “right way” in which strategy tools should be applied (Jarzabkowski, Kaplan, 2015). The results of this research reinforce the argument according to which the focus of strategic design should be displaced from the idea that it must result from a purely analytical and rational process and rather embrace the alternative conception of strategic design as being inherently creative and collective (Burgelman, 1984; Quinn, 1980; Sarasvathy, 2003).

The development of strategy tools should be adapted in such a way that their usage serve to match the specificities of issues inherent to a given firm’s activities, should be embedded in the individual and social cognitive structures characterising firm members, and inform the constitution of a contextualized and evolving set of rules aimed at playing the role of general criteria constraining, or rather, framing decision-making patterns without imposing or prescribing overly specific norms that would be set in stone for every single decision. Strategy tools should be used in the development of firm specific articulated heuristics gathered within a portfolio the structure of which would be refined over time (Bingham, Eisenhardt, Furr, 2007).

An example of the successful application of such an approach is reported in great detail in Burgelman’s longitudinal study of the evolution of the strategic position of the Intel Corporation, the strategic success of which lied in the development and application of criteria for decision-making that saved it from inertia (Burgelman, 1984).

By the same token strategy tools should be used consciously as media to foster the development of a semantic field allowing for discussion on imprecise, still developing issues that characterise strategy, without freezing them into immobile

constructs that end up soon to be irrelevant in fast-paced and changing environments.

7.3- Limitations and avenues for future research

The limitations of this research lie in the limited size of obtained sample that constrained the possibility to extrapolate the results obtained to the targeted population. A larger sample size would have allowed for a better normalcy in the distribution of strategy tools usage scores. The scoring scale also presented the issue of allowing little differentiation between variables scores that were all quite high. The possibility to use a different type of scale that would allow to magnify the difference in appreciation of extent of usage should be explored.

Besides, the structure of the questionnaire allowed for limited details as each of the variables considered were initially coverer by a single questionnaire item.

Two possible approaches may yield interesting results in the continuity of this research. On one hand a questionnaire covering multiple variables could be refined by the integration of a sufficient number of items, in order to identify more finely the relationships that these variables may entertain, using a principal component analysis for instance.

Another option would be to develop questionnaires with a high number of items but restricted in scope to a specific aspect of strategy tools usage, such as political communication or social cognitive framing for instance. Complemented by relevant literature review and in depth interviews, such a research may contribute to enrich the body of research on strategy as practice.

7.4- Concluding words

The attitude that nature is chaotic and that the artist puts order into it is a very absurd point of view, I think. All that we can hope for is to put some order into ourselves.

Willem de Kooning

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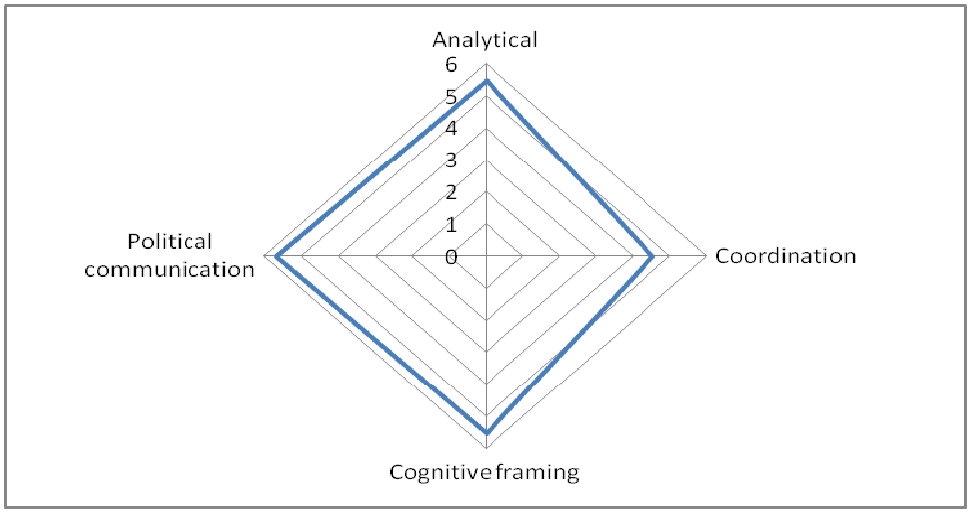
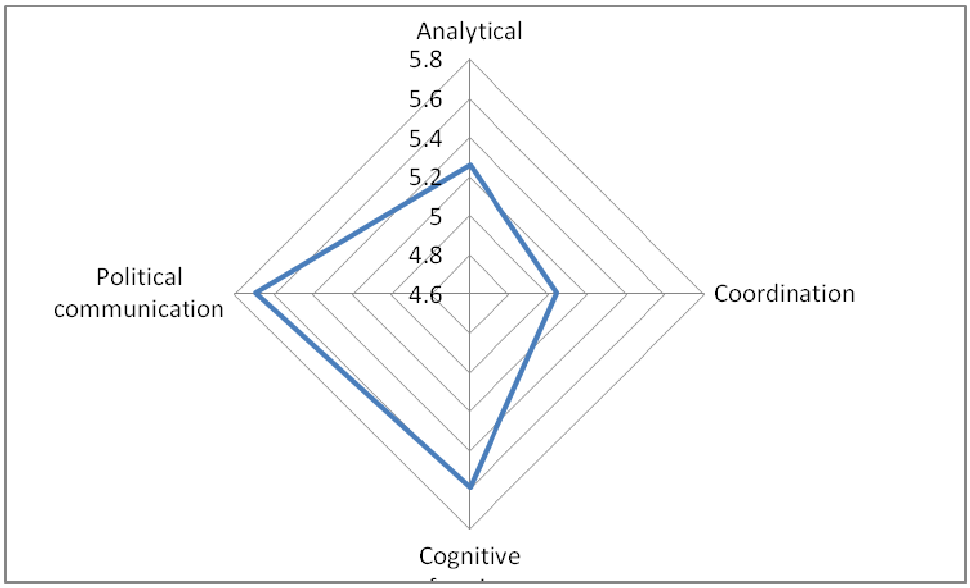
Appendix 1

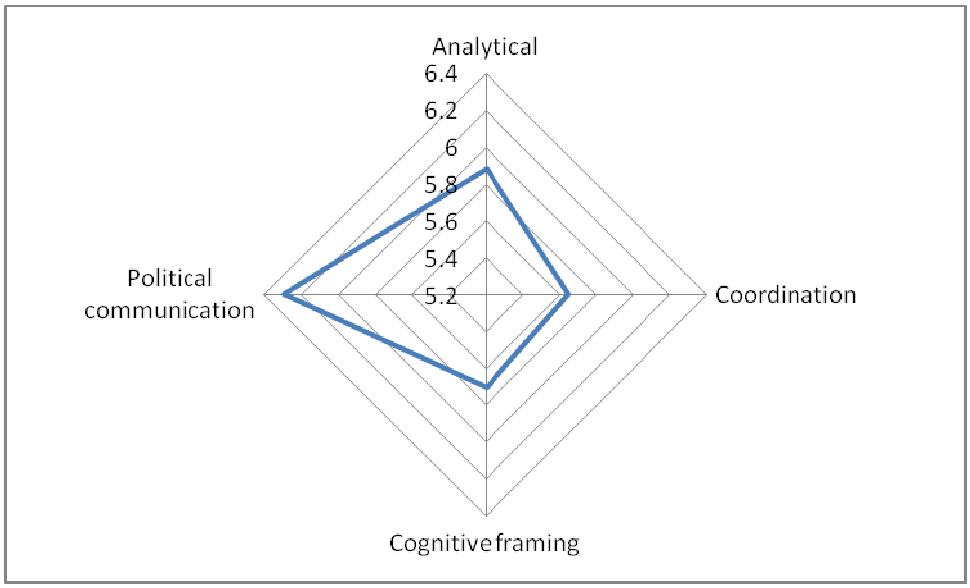
Benchmarking



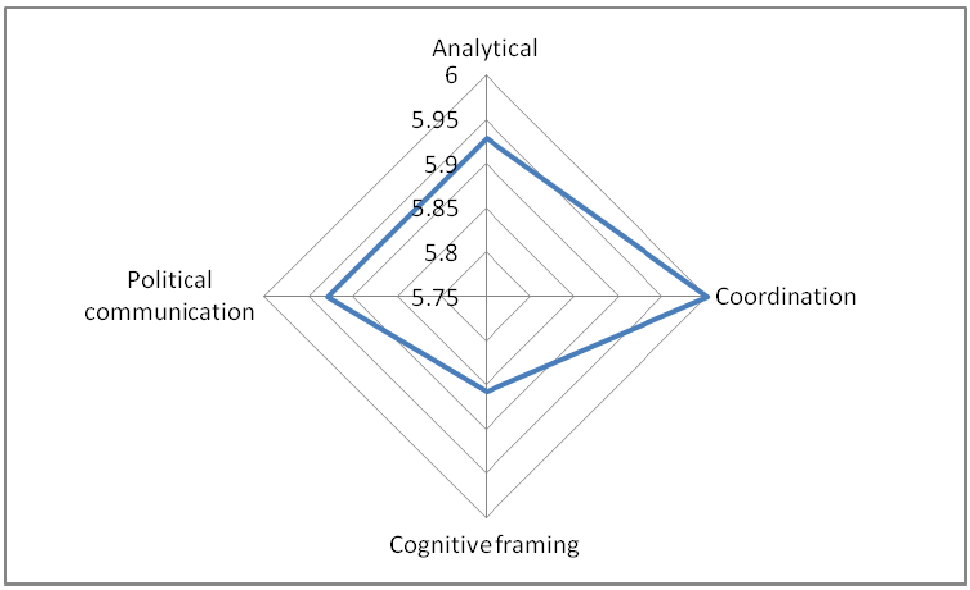
SWOT/PEST



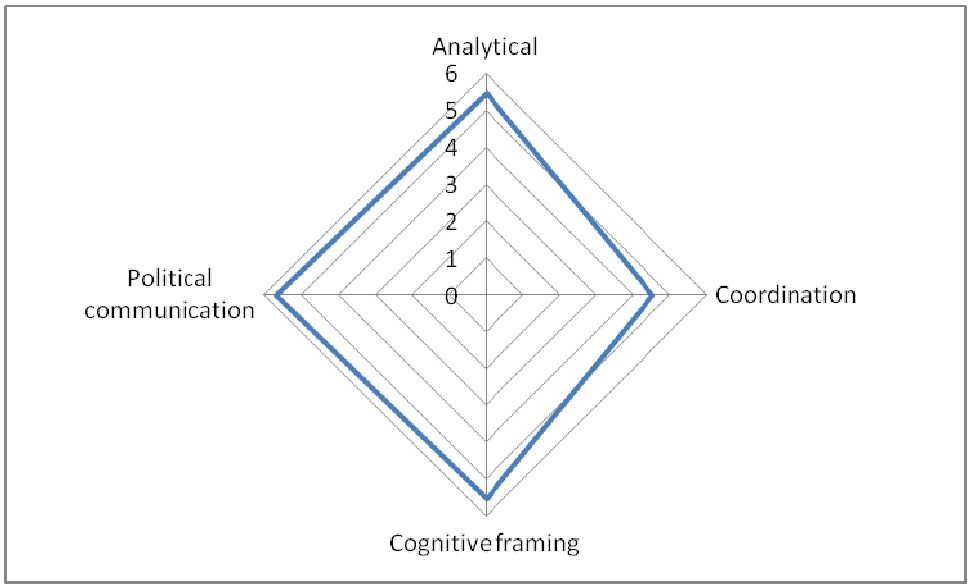
Strategic planning



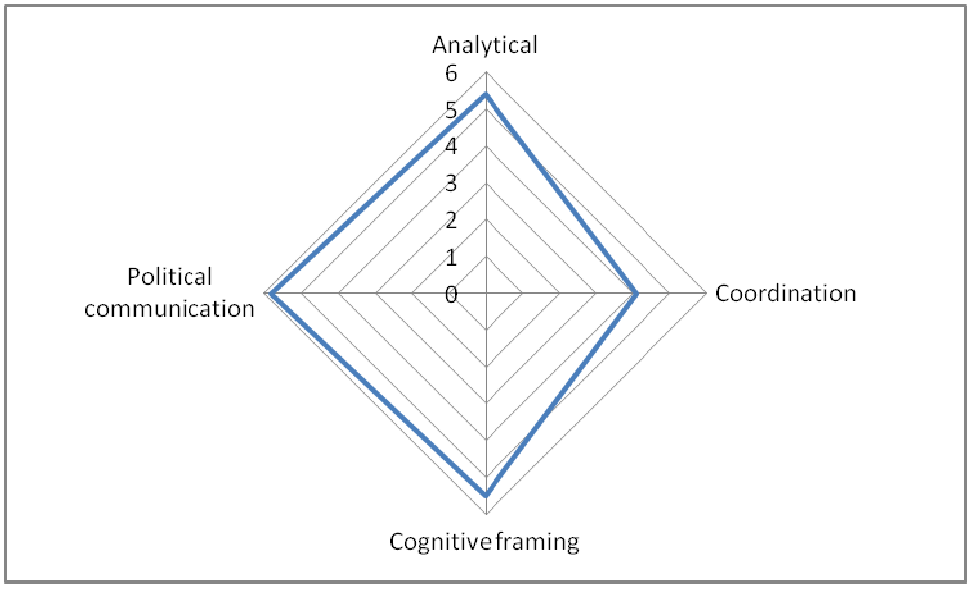
Balanced scorecard



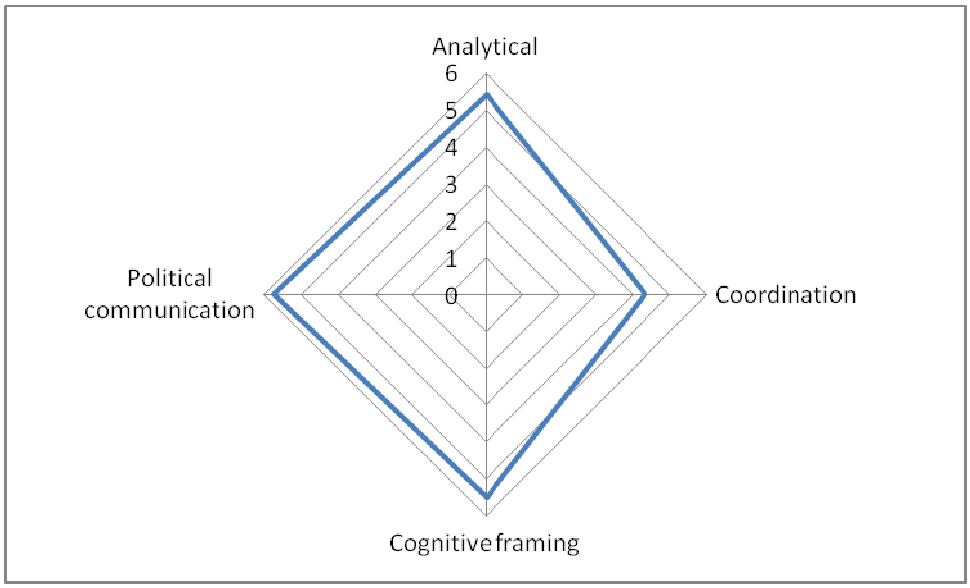
Long-term budgeting



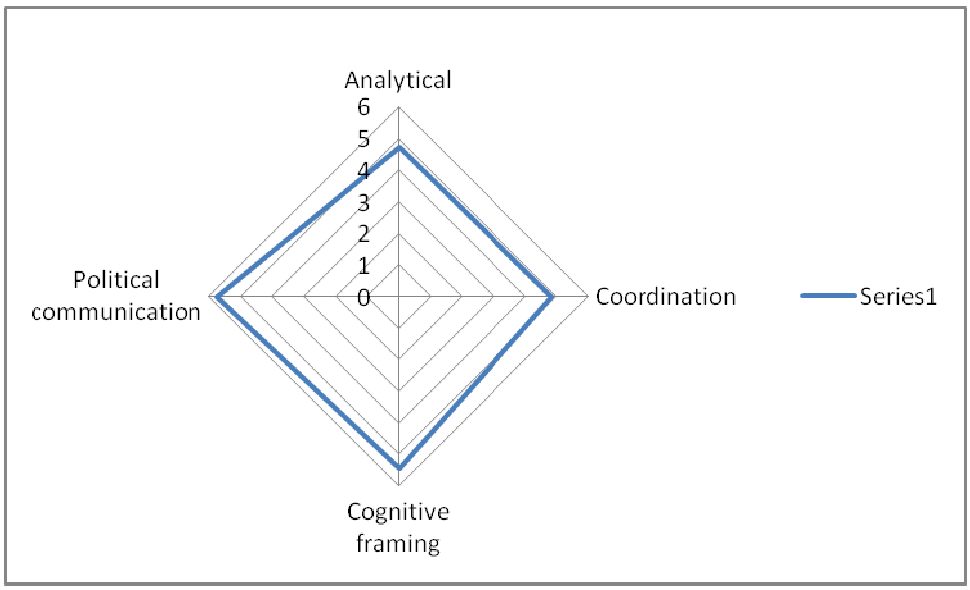
Industry analysis



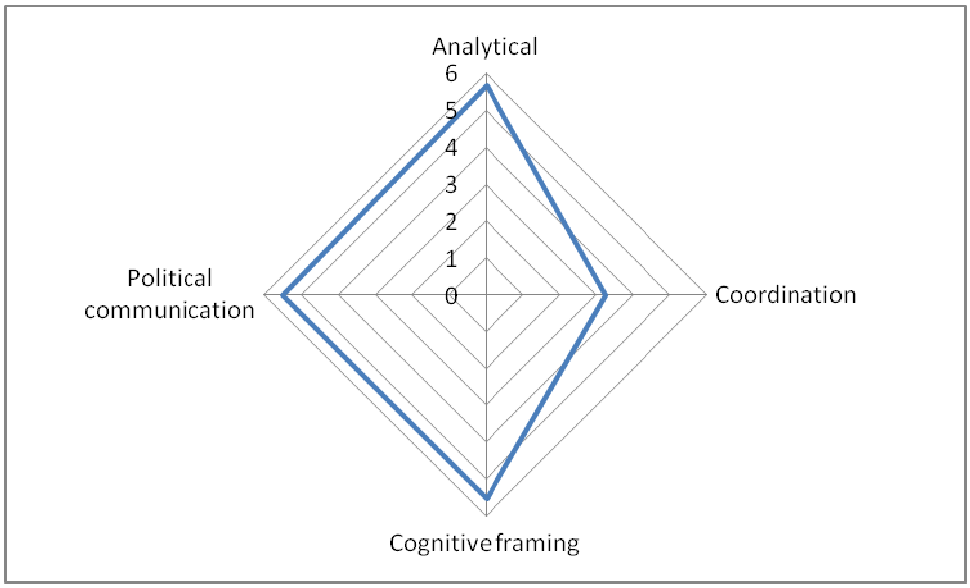
Forecasting/scenario building



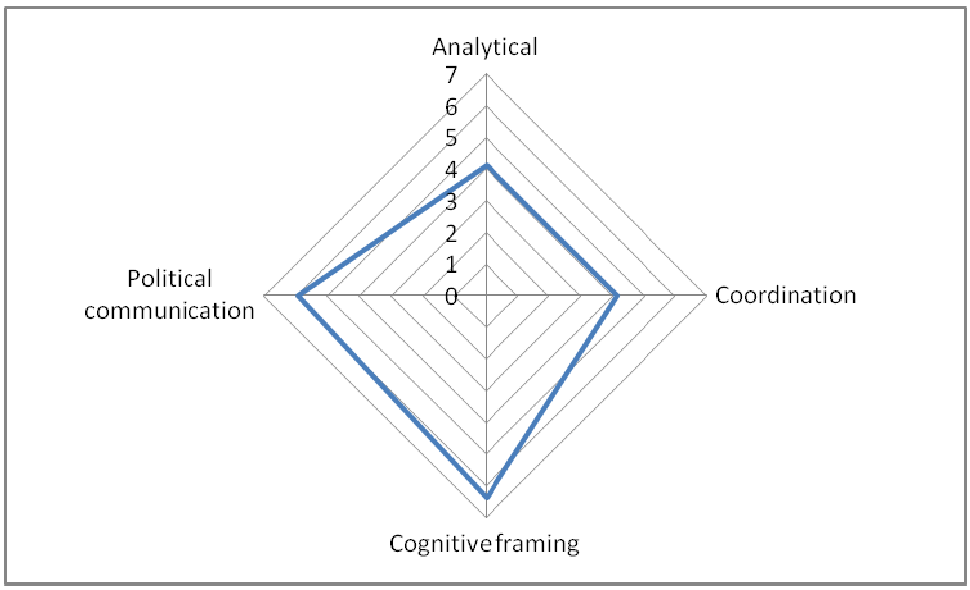
Stakeholder analysis



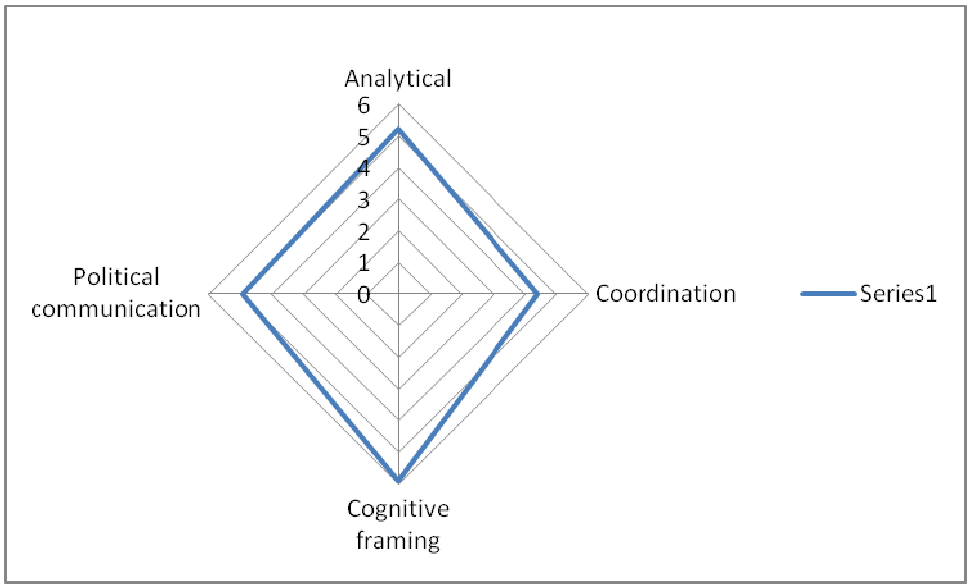
Core competencies analysis



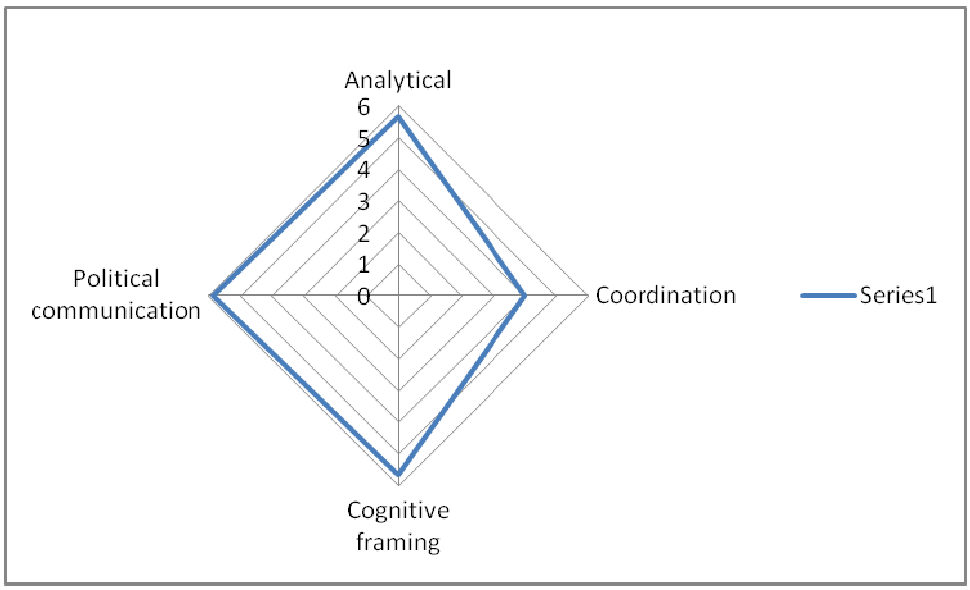
Market disruption



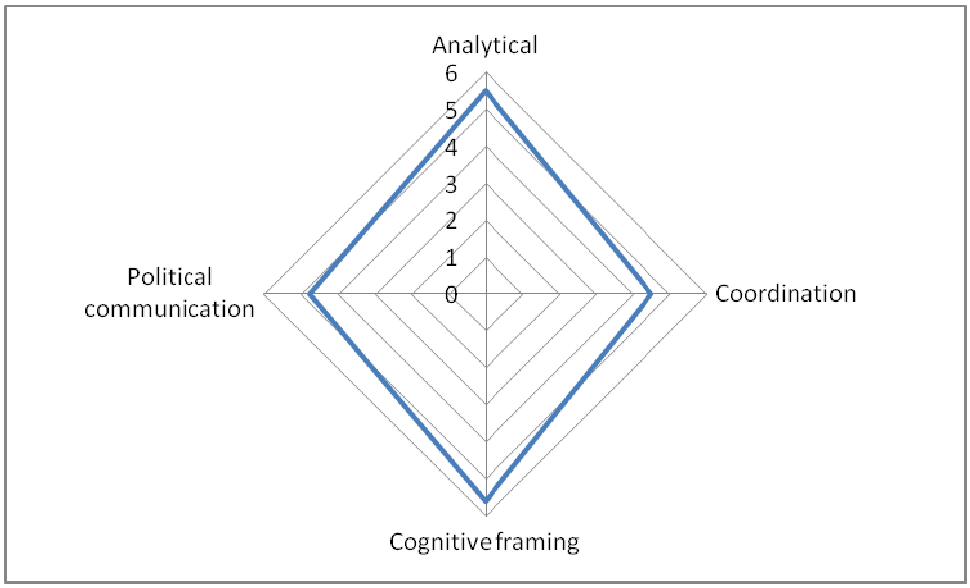
Brainstorming sessions



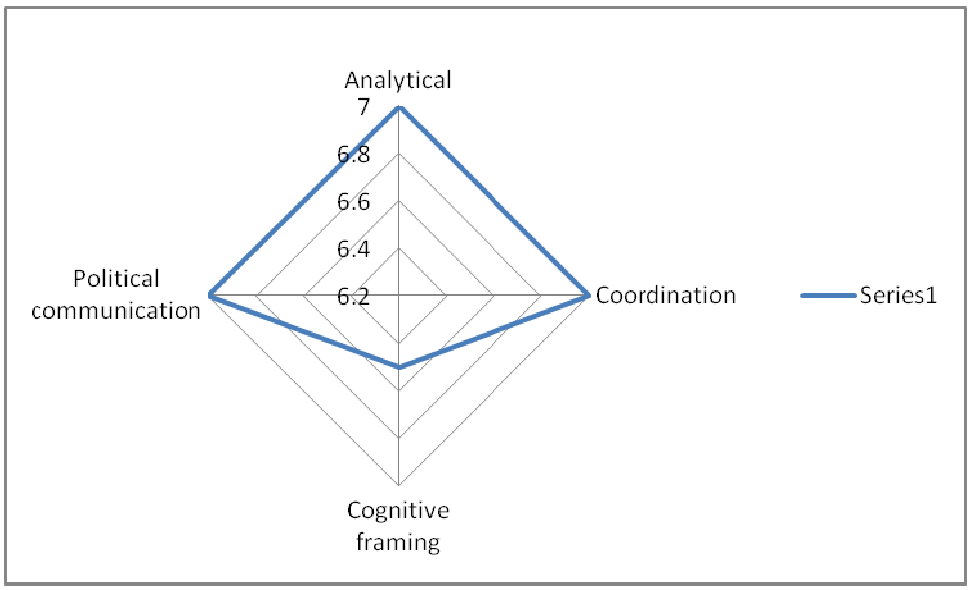
BCG/GE-Mc Kinsey matrix



SECI model



Porter's 5 forces



Appendix 2- Survey Questionnaire

Universiteit van Pretoria
University of Pretoria

GORDON INSTITUTE OF BUSINESS SCIENCE

The usage of strategy tools in South African firms

Background information and Consent form

My name is Eric Picard and I am currently studying for a Masters of Business Administration (MBA) degree at the Gordon Institute of Business Science (GIBS) with University of Pretoria.

I am carrying out a research project as a partial requirement for the degree, and I have chosen to study the usage that is made of strategy tools in South African companies. I am specifically investigating the various functions that strategy tools usage contribute to perform..

Your participation to this study would be tremendously appreciated, it will not take more than 10 minutes of your time.

In order to ensure that any sensitive information is protected, anonymity of all respondents will be preserved. The aggregated findings of this research will be shared with all respondents.

Note: if you are involved in the strategy development process of more than one company, please complete a different questionnaire for each company.

Kindly click on the link below (Next) to complete the questionnaire at your earliest convenience.

By completing the survey, you indicate that you voluntarily participated in this research.

Would you have any concerns, please feel free to contact me or my supervisor, our contact details are reproduced below:

Eric Picard: epicard@ymail.com
+27618773658
Dr Raj Raina: rainar@gibs.co.za

Thank you very much for your time and participation.

Sincerely,

Eric Picard.

Universiteit van Pretoria
University of Pretoria

Gordon Institute of Business Science

The usage of strategy tools in South African firms

Company and industry profile

* 1. What industry does your company belong to?

* 2. How many employees work in your organisation?

- 1-49
- 50-499
- 500 - 999
- 1000 and above

* 3. For how long has your organization existed?

* 4. Is your company a subsidiary of a large local or multinational holding corporation?

- Yes
- No

* 5. Is your company listed on the JSE or AltX stock exchanges?

- Yes
- No

6. How is your organisation structured?

- ○ Simple
- ○ Functional
- ○ Divisional
- ○ Matrix
- ○ Team
- ○ Network
- ○ Other (please specify)

3

Universiteit van Pretoria
University of Pretoria

Gordon Institute of Business Science

The usage of strategy tools in South African firms

Strategy tools

Strategy tools are defined as the various techniques, methods, models, frameworks, approaches and methodologies which are available to support strategic decision-making.
Strategic decisions are those that are characterized by large commitment of resources and deal with issues of substantial importance to the company,usually with longer rather than short term impact; they usually involve more than one function and may translate into significant change.

* 7. Please pick up to three strategy tools that are the most important for making strategic decision in your organisation.

- [ ] Strategic planning
- [ ] Core competencies analysis
- [ ] Market disruption
- [ ] Stakeholder analysis
- [ ] BCG growth/GE-McKinsey 3X3 matrix
- [ ] Brainstorming sessions
- [ ] SWOT/PEST analysis
- [ ] Balanced scorecard
- [ ] Long-term budgeting
- [ ] SECI model
- [ ] Forecasting/Scenario building
- [ ] Benchmarking
- [ ] Porter's 5 forces
- [ ] Industry analysis
- [ ] Focus groups
- [ ] Other (please specify)

Universiteit van Pretoria
University of Pretoria

Gordon Institute of Business Science

The usage of strategy tools in South African firms

Strategy tools usage

In the following questions (8 to 15), you will be requested to indicate your agreement with the proposed statements by rating a scale ranging from 1 (to no extent) to 7 (to a very large extent).

* 8. For each tool you picked, please indicate the extent to which it has been used to carry out detailed, formal, analytical strategic analyses.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

* 9. For each tool you picked, please indicate the extent to which it has been used to provide detailed, prescriptive courses of action.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

* 10. For each tool you picked, please indicate the extent to which it has been used to frame or guide individual reflection on strategy.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
[Insert text from Other]	○	○	○	○	○	○	○

7

* 11. For each tool you picked, please indicate the extent to which it has been used to facilitate internal discussions and promote a shared understanding of strategic decisions within your organisation.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

8

* 12. For each tool you picked, please indicate the extent to which its usage has evolved and been adapted to match issues that are specific to your organisation.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

* 13. For each tool you picked, please indicate the extent to which it has been used to structure internal and/or external formal communications.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

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14. For each tool you picked, please indicate the extent to which it has been used to facilitate negotiation or build consensus on strategic decisions.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

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15. For each tool you picked, please indicate the extent to which it has been used to enhance task distribution foster coordination within your company.

	1	2	3	4	5	6	7
Strategic planning	○	○	○	○	○	○	○
Stakeholder analysis	○	○	○	○	○	○	○
SWOT/PEST analysis	○	○	○	○	○	○	○
SECI model	○	○	○	○	○	○	○
Porter's 5 forces	○	○	○	○	○	○	○
Core competencies analysis	○	○	○	○	○	○	○
BCG growth/GE-McKinsey 3X3 matrix	○	○	○	○	○	○	○
Balanced scorecard	○	○	○	○	○	○	○
Forecasting/Scenario building	○	○	○	○	○	○	○
Industry analysis	○	○	○	○	○	○	○
Market disruption	○	○	○	○	○	○	○
Brainstorming sessions	○	○	○	○	○	○	○
Long-term budgeting	○	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○	○
Focus groups	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

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* 16. Please add any comment you would like to make on your company's usage of strategy tools (indicate "No comment" if you do not have any comment to make)?

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We are done

Thank you for your time!

Eric Picard
+27618773658
epicard@ymail.com

Appendix 3- Ethical clearance letter

Dear Eric Picard

Protocol Number: **Temp2015-02372**

Title: **Application for ethical clearance**

Please be advised that your application for Ethical Clearance has been APPROVED.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

Adele Bekker

Appendix 4- Copyright declaration

COPYRIGHT DECLARATION FORM

Student details			
Surname:	PICARD	Initials:	**ERIC**
Student number:	15384749		
Email:	epicard@ymail.com		
Cell :	+27618773658	Landline:	
Course details			
Degree:	MBA	Year completed:	2016
Department:	GIBS		
Supervisor:	Rajinder Raina		
Supervisor email:	rainar@gibs.co.za		
Confidentiality / Embargo			
Do you need to have your report embargoed? If so, attach a motivation letter. Without a letter this will not be granted.			
Yes		No	**X**
If yes, please indicate period requested			
Two years		**Permanent	
If permanent, please attach a copy of the letter of permission from the Vice-Principal:			

Research and Postgraduate Studies. Without a letter this will not be granted.

Access

A copy of your research report will be uploaded to UPSpace

Can the Information Centre add your email address to the UPSpace web site?

Yes	X	No	

If no, please motivate (ignore if report is to be embargoed)

Copyright declaration

I hereby certify that, where appropriate, I have obtained and attached hereto a written permission statement from the owner(s) of each third-party copyrighted matter to be included in my research report ("the work"), allowing distribution as specified below. I certify that the version of the work I submitted is the same as that, which was approved by my examiners and that all the changes to the document, as requested by the examiners, have been included.

I understand that all rights with regard to intellectual property in the work vest in the University who has the right to reproduce, distribute and/or publish the work in any manner it may deem fit.

I agree that, a hardcopy of the abovementioned work be placed in the Gordon Institute of Business Science Information Centre and worldwide electronic access be given to the softcopy on UPSpace.

Signature: 	**Date: 13/01/2016**