

**STRATEGY AS A PATTERN IN RESOURCE ALLOCATION:
A CONCEPTUAL EXTENSION OF THE MILES AND
SNOW TYPOLOGY**

Patrick T. Gibbons
University College Dublin
Belfield
Dublin 4
Ireland
Tel: +353 1 716 8264
Fax: +353 1 716 1132

Cormac Mac Fhionnlaioich
University College Dublin

Ruchira Sharma
Dublin City University

January 2008

**STRATEGY AS A PATTERN IN RESOURCE ALLOCATION:
A CONCEPTUAL EXTENSION OF THE MILES AND
SNOW TYPOLOGY**

ABSTRACT

Strategy is about committing resources to activities. This paper combines a generic strategy framework with a resource commitment framework. Specifically, it extends the Miles and Snow typology by incorporating issues such as the timing and nature of investment decision as critical elements of business level strategy. As such it makes a contribution to the literature by further explicating the links between strategy, resource commitments, financing and performance.

Keywords: Strategy, resource commitment, timing, scope.

**STRATEGY AS A PATTERN IN RESOURCE ALLOCATION:
A CONCEPTUAL EXTENSION OF THE MILES AND
SNOW TYPOLOGY**

Strategies define the organisational purpose, the competitive domain and the resource commitments needed to achieve and sustain competitive advantage (Andrews, 1971; Ansoff, 1965; Chandler, 1962; Mintzberg, 1978). Advocates of the strategic choice perspective (Child, 1972) point out that managers have considerable discretion. One of the major discretionary acts open to management is the allocation of resources to business units, functions and programs. The very definition of strategy as a pattern in a stream of decisions suggests that consistency in resource commitment levels and types reveals a firm's "realised" strategy. Resource allocation lies at the heart of strategic management (Bower, 1970; Robins, 1992). At the business level, strategic decisions are typically identified as those involving long-lasting commitments of resources (Ghemawat, 1991). Thus, investments in physical capital, R&D and brand development are typically identified as strategic decisions since they affect the intensity and nature of competition within an industry (Shapiro, 1989). Moreover, within a business unit, major investment decisions typically set important constraints and precedents on subsequent decisions. As Teng and Thomas (1994) assert strategic investment decisions vertically dominate other decisions in the decision hierarchy by locking firms into a particular business scope through specific technological or distribution choices. Over time they also act as dynamic constraints on other decisions by either locking firms into particular competitive strategies or by locking them out of particular domains for a period of time (Ghemawat, 1991).

In operationalising the business strategy concept researchers have resorted to developing conceptual and empirical typologies of strategies (e.g. Porter, 1989; Miller & Friesen, 1984). The typology proposed by Miles and Snow (1978) remains one of the most popular and frequently-used approaches in measuring business level strategy (Zahra & Pearce, 1990). In a recent paper, Doty and Glick (1993) argue that typologies must provide a complete description of each ideal type using the same set of dimensions. This paper argues that the specification of the Miles and Snow typology needs to be extended to include resource commitment decisions thereby complementing the existing focus on domain selection decisions. In addition, this paper extends the typology's nomological network by linking resource commitment levels to performance variation, and by linking each strategy type to specific resource commitment and financing decisions (Sandberg, Lewellen & Stanley, 1987). Such an extension of the typology is important for two reasons. First, it would elaborate both the grand theoretical assertions incorporated in the typology by further explicating links between strategy and performance (broadly defined to include risk). Second, it would also elaborate the middle range theories by extending the number of second-order constructs in the model to include investment and financing decisions and thereby explicating further the internal consistency among the second order constructs (Doty & Glick, 1994). Finally, it represents a connection between the "real" economy of the firm with the financing economy of the firm as discussed by McGee (2007).

BUSINESS LEVEL STRATEGY TYPOLOGIES

The Miles and Snow Typology

The Miles and Snow (1978) typology has attracted much research attention since its development both in the business strategy domain (Conant, Mokwa & Varadarajan, 1990;

Hambrick, 1982, 1983; Meyer, 1982; Parnell & Wright, 1993; Ruekert & Wwaker, 1987; Snow & Hambrick, 1980; Snow & Hrebiniak, 1980; Zahra, 1987; Zajac & Shortell, 1989) and the marketing domain (McDaniel & Kolari, 1987; McKee, Varadarajan & Pride, 1989). The typology posits that successful organisations display a consistent pattern of adaptation to their environments (Zahra & Pearce, 1990). This pattern is evidenced in how the organisations resolve their entrepreneurial, engineering and administrative decisions. The entrepreneurial problem deals with the definition of the market domain to be served, the engineering problem involves the production and technological decisions of the firm and the administrative problem arises from organisational structure and process issues. Four different archetypes of strategies emerged from Miles and Snow's field study, namely: Defenders, Prospectors, Analyzers and Reactors. The crucial distinctions between the archetypes are the domain decisions taken, the rate of new product introduction and the consequent structural and technological decisions displayed. Defenders emphasise a narrow domain through restricting the rate of new product introduction and stress efficiency of operations. Zammuto (1988) suggests that these are analogous to K-strategists in ecological terms (see Brittain & Freeman, 1980), as they gain advantage through efficiency of operations. Prospectors on the other hand seek new opportunities and stress product development. These organisations move quickly to exploit first-mover advantages, which include setting new industry standards and monopolistic pricing (Kerin, Varadarajan & Peterson, 1992). Analyzers exhibit characteristics of both Defenders and Prospectors, mimicking Prospectors' innovative strategies with "me too" introductions, while emphasising efficient operations in a separate, more stable domain. Finally, Reactors do not follow a conscious, explicit strategy and have been consistently identified as weak performers (Zahra & Pearce, 1990). Such poor performance can be ascribed to the

inadequate “fit” between their entrepreneurial, engineering and administrative decisions. This notion of “fit” is central to the theory underlying the Miles and Snow typology. The internal consistency of the configuration among the entrepreneurial, engineering and administrative constructs results in effectiveness (Doty and Glick, 1994).

Notwithstanding the comprehensiveness offered by the typology in specifying how organisations maintain alignment with their environment and manage internal interdependencies (Hambrick, 1980; Snow & Hambrick, 1980), a number of research issues emerge from the manner in which the types are elicited in research settings. Zahra and Pearce (1990), in a review of empirical work using the typology, report that self typing based on paragraph descriptions and investigator inference are the most popular operationalisation procedures. However, in both approaches relatively few criteria are used to classify firms, thence the accuracy of assignment in many studies remains suspect (Conant, Mokwa & Varadarajan, 1990).

Zahra and Pearce suggest that explicitness of strategy helps differentiate Reactors from the other three types. Analyzers, Prospectors and Defenders all make “commitments” to particular strategic approaches (Ghemawat, 1990) while Reactors’ recipes are more haphazard. In their review, Zahra and Pearce recommend that other dimensions should be considered in differentiating among the four types. Echoing that call, Doty and Glick (1994) argue that typological theories should provide a “complete description” of each ideal type. The completeness of description would improve precision in comparing ideal types and in identifying the relative importance of constructs within each ideal type.

One approach to improve precision is to evaluate the content validity of the Miles and Snow typology (Venkatraman & Grant, 1986). The term content validity refers to the extent to which a measure taps a representative sample of the characteristics of a construct. Traditional definitions of strategy have emphasised the importance of both domain selection and domain navigation decisions (Bourgeois, 1980). Domain selection refers to the choice of product/markets to compete in and is represented by the entrepreneurial decision in Miles and Snow's adaptive cycle. Domain navigation refers to the basis upon which the business competes and on how the strategy is implemented. Domain navigation includes the commitment of resources to particular programs over time (MacCrimmon, 1988) and the development of an organisational and technical infrastructure to establish and administer production. The Miles and Snow typology, while comprehensive in addressing the adaptive cycle, fails to emphasise the nature and timing of resource commitments. Part of the explanation of this de-emphasis lies in the fact that the typology represents a "process" perspective on the strategic problem. That is, the researchers emphasised the underlying pattern of activities involved in making the entrepreneurial, engineering and administrative decisions (Van de Ven, 1992). However, integrating this process perspective with a more "content" oriented approach by linking the typology with investment and financing decisions would provide a meaningful extension to the existing theory (Montgomery, Wernerfelt & Balakrishnan, 1989). Given the emphasis on resource commitment in definitions of the strategy construct and in empirical work at the strategic groups level (Cool & Schendel, 1987; Hatten, Schendel & Cooper, 1979), an integration of process and content perspectives would automatically provide a more holistic and complete lens to view organisational strategies.

Bowman and Hurry (1993) view strategy as a process of organisational-resource investment-choices, or options. The entrepreneurial decision involves both a scope decision management's choice of where to compete and the investment decision critically determines how a firm will compete (Shapiro, 1989). The investment decision is a key strategic decision since it involves the commitment of significant resources in the face of uncertainty. Recently, such investment decisions have received attention in the economics literature (Pindyck, 1991) and in strategic management (Sanchez, 1993). Sanchez (1993) argues that flexibility may offer a basis for sustainable competitive advantage in markets characterised by uncertain change. Flexibility in investment decision making comprises two dimensions, namely the timing of investment and the flexibility of investment (Bowman & Hurry, 1993; Sharp, 1991; Wernerfelt & Karnani, 1987).

A Typology of Resource Commitment Levels

Collis (1990), building on earlier work by Wernerfelt and Karnani (1987), has advanced a typology of resource commitment strategies which offers a potentially important supplement to traditional ways of conceptualising business level strategy (see Figure 1).

insert Figure 1 around here

In particular, Collis' typology identifies four types (described below) based on the twin dimensions of investment timing and flexibility (or scope) of investment. The firm has a choice between committing resources immediately or waiting until certain critical

uncertainties, such as demand and supply considerations, are resolved. The general principle is that the greater the first-mover advantage, the more important it is for the firm to commit resources early (Wernerfelt & Karnani, 1987). Delay is potentially less profitable as the ability to pre-empt rivals and build competitive advantage is lost (Ghemawat, 1991). The second dimension is whether to focus resources on a particular outcome by investing in specialised of “sticky” assets or to diversify risk by investing in relatively fungible or plastic assets (Alchian & Woodward, 1988) which can be exploited across a range of alternative futures or which can offer a variety of applications. Typically, the greater the returns to scale characterising an investment, the greater the advantage of “focusing” the investment.

By applying the two dimensions, four generic strategies are produced (Collis, 1990). The “dedicated” approach involves the relatively immediate commitment of resources to a very focused application. Andy Grove, the CEO of Intel, described that company’s attitude to investment in a recent interview: “You can’t hesitate or hedge your bets” (Hadjian, 1993, p25). Collis proposes that this approach offers both the highest returns and the highest risk. Higher returns (*ceteris paribus*) are associated with this strategy because advantage accrues to larger investments which are dedicated to a particular use (Wernerfelt & Karnani, 1987) and the early commitment of resources provides a longer base of experience. Collis cites Federal Express as an example, with its initial investment in hub operations, ground transportation networks and heavy advertising for its overnight delivery business in 1973. These assets were complementary and dedicated to the overnight delivery business.

The “incremental” approach eschews the immediate commitment of resources, but incorporates the focused application of investment. This approach reduces risk by delaying

investment until critical uncertainties have been resolved. Two ways of achieving this are to react with “second but better” or “me too” type approaches following industry pioneers.

The “insurance” approach involves immediate commitment to a relatively flexible range of options, thereby hedging the organisation’s bets on alternative futures. For example, Sun Microsystems was faced with a key strategy and distribution decision in the late eighties. The barriers between “workstations” and “personal computers” were blurring and Sun was faced with the choice of maintaining its focus on the engineering market or changing distribution and promotion to address the upper-end personal computer segment (see Urban & Star, 1991). Such a move would have “diversified” Sun’s earnings streams. Finally, the “opportunistic” approach can be compared to one of “hustle” (Bhide, 1986), where strategy is not pre-determined and the firm attempts to maintain maximum flexibility by avoiding early commitments and conserving its resources in fungible assets.

INTEGRATING AND EXTENDING THE TYPOLOGIES

Strategy Archetypes Resource Commitment

Table 1 integrates the two typologies by linking each investment strategy with a generic Miles and Snow type and it also provides an overview of the main arguments contained in the balance of the paper. Defenders display a high degree of commitment to their chosen domain and compete on the basis of cost efficiency. Zammuto’s (1988) integration of the Miles and Snow approach with the insights of population ecologists classifies these organisations as K-specialists, where K denotes an emphasis on efficiency of operations and

specialism refers to the focus on a narrow domain. For example, in their historical study of the tobacco industry, Miles and Cameron (1982) identified American brands as Defenders. The company emphasised its competitive position in the non-filter segment and committed resources to improve its position in that segment. For Defenders, maintaining stability and efficiency requires an emphasis on achieving cost efficiency and thence, attaining an economy of scale is an attractive prospect. Thus, the breadth or fungibility of investment is relatively low in order to exploit potential economies of scale which a dedicated investment should provide. An analogous justification is provided by invoking the concept of slack. Scharfman et al (1988) argue that firms in munificent environments will employ low discretionary slack to discourage entry into the market. This low discretionary slack is typically “sunk” investment. The absorption of slack into specialised investments closes off options to the firm (Fox & Marcus, 1992) and therefore displays considerable commitment, which would enhance the Defender’s reputation for “defence” of its niche. Additionally, Scharfman et al argue that firms with a stable production process (like Defenders) are more likely to deploy low discretionary slack, because firms encountering few exceptions or exceptions which can be dealt with analytically will “know” the kinds of slack which it needs under a variety of conditions.

P1a: *Defender strategies are associated with specialised investments with their traditional domains.*

In addition, given Defenders’ consistency in serving a single domain, it is expected [absent major unforeseen changes in the environment (Zajac & Shortell, 1989)], that Defenders would commit resources sooner rather than adopt a “wait and see” attitude. Such early

commitment of resources sends an important signal to other competitors in the market that the niche serviced by the Defender will be protected. The use of pre-emptive investment in plant and equipment serves as a credible commitment to the niche. This commitment could deter entry or mobility by other competitors (Divir, Segev & Shenhar, 1993). Furthermore, given the specialised nature of the investments and the emphasis on cost reducing investments, decisions can be made by computation (Thompson, 1967) which facilitates relatively fast decision making. Thus:

P1b: *Defender strategies are associated with early resource commitments within their traditional domain.*

In summary, Defender strategies are similar to the Dedicated strategies in the Collis framework.

Zammato (1988) identifies Prospectors as “re-Generalists”. The “r” denotes an emphasis on achieving first-mover advantages. Miles and Cameron suggest that Philip Morris’ search for new product/market opportunities in the tobacco industry is illustrative of Prospective behaviour. Prospectors often create market changes and Philip Morris pioneered with novel products such as economy brands and low tar cigarettes, and was the first major tobacco company to attract the female smoker. Prospectors exploit first mover advantages, and thus are inclined to invest immediately. These pioneering efforts suggest:

P2a: *Prospector strategies are associated with the early commitment of resources.*

The Prospector's domain is in a continuous state of development. Prospectors do not "lock" themselves in to specific domains, but emphasise flexibility, fluidity and fast response. In solving their engineering problem, Prospectors employ flexible technologies which permit rapid response to changing market requirements (Miles, Snow, Meyer & Coleman, 1978). They emphasise flexibility in the sense that they compete based on product mix and innovation (Parthasarthy & Shethi, 1993). Thus, they incorporate both scope and speed flexibility. They emphasise new product introduction, and the maintenance of a broad range of potential applications. Technology is much less predictable, many exceptions occur, thus such firms will opt for low discretionary slack (Sharfman, Wolf, Chase and Tansik, 1988). Thus, Prospectors spread their risk over a broader range of market domains.

P2b: *Prospector strategies are associated with investments in plastic assets.*

In summary, Prospector strategies are similar to Collis's Insurance strategies.

Analyser organisations serve a number of discrete product market domains simultaneously. As Zammuto (1988) points out, the Analyzer stresses efficiency of operations, but over a wider domain than the Defender. Notwithstanding the fact that these firms are "generalists" (Zammuto, 1988), the fact that they compete in discrete and separable domains suggests that their investments are domain specific. That is, separate investments are made to meet each domain's particular requirements. As Balakrishnan and Fox (1993) observe, assets specifically tailored to the firm's strategy can reduce costs and/or improve quality or offer a more differentiated product or service. This asset specificity allows the Analyzer to achieve economies in one domain and to meet market requirements in more differentiated domains.

P3a: *Analyzer strategies are associated with specialised investments in each domain.*

Moreover, the incremental approach, with Analyzers mimicking Prospectors, suggests a crucial timing element in which Analyzers defer investments until market prospects for newly introduced products are more clear. Thus, these organisations adopt a more cautious attitude toward investment. Miles and Cameron (1982) identified RJ Reynolds as an Analyzer in the tobacco industry. Throughout their study period, Reynolds monitored its competitors' new product developments and emphasised early adoption of many of these introductions, resulting in a very low new product failure rate.

P3b: *Analyzer strategies are associated with the late commitment of resources.*

In summary, Analyzers are analogous to the Incremental strategies described by Collis.

Finally, Reactors are characterised as not having a consistent approach to the environment. Miles and Snow (1978) point out that their adaptive cycle usually consists of responding inappropriately to environmental changes. In the tobacco industry, Liggett and Myers was identified as the Reactor. As a Wall Street Journal article, quoted by Miles and Cameron (1982, p107) states: "Liggett is always too late with too little". Relating the Reactor to the Collis typology suggests that the "opportunistic" approach is most similar. The opportunist firm does not display a consistent approach to resource commitment beyond the deferment of investment and the maintenance of "flexibility". This combination suggests that in

product market terms, no “common thread” (Ansoff, 1965) underlies domain selection and resource allocation decisions of the firm. Thus the following propositions are suggested:

P4a: *Reactor strategies are associated with investments in plastic assets, and*

P4b: *Reactor strategies are associated with the late commitment of resources.*

The emphasis and the need for firms to maintain flexibility has significant implications for the financing of assets and projects. Managerial discretion within a firm can be severely curtailed by onerous covenants attaching to debt financing. Thence, the desire for flexibility is manifest in both the nature of investments made and in the financing of those investments.

Implications for Capital Structure

The three primary decision categories, entrepreneurial, engineering and administrative (Miles & Snow 1978) give rise to different orientations in terms of external market focus, internal production focus and administrative focus. Entrepreneurial decisions are related to new product-market orientation including research and development. Engineering decisions relate more to production technology including investment in assets along with process technologies. The administrative orientation relates more to monitoring and control, these being hallmarks of corporate governance

The critical importance of the capital structure or financing decision is seen in the impact of the corporate finance decision on product market decisions (Brander & Lewis, 1986, Philips, 1996), on technology (Gomes & Philips, 200x) and governance (Williamson, 1988)

Each of these realms of focus, entrepreneurial or market orientation, engineering or production orientation, and administrative or governance orientation will give rise to different capital structure composition according to the focus of the firm's strategy.

Thus, strategies oriented toward the new product market growth through research and development are more likely to be funded by equity finance given the higher risk associated with this type of activity (Gomez & Philips, 200x). Williamson (1988) suggests that a firm's capital structure and investments in projects parallels governance structure arguments (see Balakrishnan & Fox, 1993 also). In particular, he contends that asset specificity is an important driver of the financing sources available to a firm.

In relation to production, where the production technology involves specialised assets with low resale or salvage value, the asset is more likely to be financed by equity, all the more where the production technology is not well understood by the providers of external finance. There would be a natural reluctance on the part of debt providers to fund production assets where the collateral value is difficult to ascertain. In the event of bankruptcy and liquidation, a firm's more specialised assets face a greater loss in value, and notwithstanding lenders' mortgage claims on such assets, lenders have limited protection against loss. Consequently, lenders prefer to lend to more plastic assets, as these hold their value to a greater extent given their ability to be redeployed to other uses. Thus, Williamson concludes that debt is a governance structure that is well suited to projects where the assets are redeployable and equity is suitable to projects where assets are less redeployable.

In relation to an administrative or governance focus, debt can play a significant role in facilitating coordination and control wherein the focus is more so on effective governance of the corporation rather than on funding innovation. Higher levels of debt brings about more external market monitoring and less propensity to engage in empire building (Jensen & Meckling, 1976). In governance terms, debt is the market-like form of organisation, while equity is the hierarchical form since the latter form of financing requires a hierarchy rather than a contractual commitment to monitor investments.

Balakrishnan and Fox (1993) found in their empirical study of the mining and manufacturing firms that leverage was positively related to asset redeployability (i.e. plasticity), providing empirical evidence of Williamson's arguments. Brandner & Lewis (1986) suggests that firms with higher levels of debt have an incentive to engage in aggressive product market behaviour. High debt can act as a signal or commitment to a particular product market strategy in the sense that a focused or aggressive strategy is necessitated by the need to generate cash with which to meet debt obligations. Thus, by adopting a higher levels of debt a firm can build a reputation as an aggressive player in the product market, thus discouraging competitors from entering the market. They also found that a firm's leverage was positively related to its investment in assets that signal commitment to the product market, i.e. reputational assets. Given these findings, it is likely that firms which invest in specialised assets will have a greater reliance on equity in their financing. Thus, the following propositions can be advanced:

P5: *Because of their investments in specialised assets, firms pursuing Defender and Prospector strategies will have a greater proportion of equity in their balance sheets than Analyzers and Reactors.*

As compared to Defenders, Prospectors tend to focus on exploration of new product markets and research and development involving significant levels of risk and information asymmetry. Given higher levels of product market risk and higher levels of information asymmetry associated with new innovations, there will be a reluctance on the part of lenders to fund this activity wherein cash flows and asset values are less predictable. On the other hand, Defenders invest extensively in reputational assets, protecting the status quo, and exploit current market opportunities. Such a strategy is less risky and more transparent involving low degrees of information asymmetry. Thus Defender strategies can be more readily financed by debt as compared to Prospector strategies.

Campbell (1979) extends Ross's model where a the manager of a higher value firm can use debt financing to signal this information to the market. Since a false signal (issued by a lower value firm pretending to be a higher valued firm) will result in a penalty of potential bankruptcy for lower valued firm, this signalling approach analysis suggests that debt levels can be used to assess managerial assessment of firm quality. Campbell suggests that information as possessed by managers has to remain confidential in order to remain valuable and focuses on the type of information that the manager has – whether the information is of technological or strategic nature. If the information is of a technological nature, he suggests that managers can disclose it without necessarily diminishing value since this type of information can be protected by patent rights. However, information regarding

marketing/advertising strategies, R&D procedures and organizational techniques needs to be kept private because it cannot be otherwise protected from imitators. So managers with private information regarding strategic information may use financing decisions to preserve the surprise monopoly profits for current equity holders. They can do so by issuing debt securities with private disclosure of confidential information. These securities will have different claims than the claims of existing equity holders and the holders of these securities will be precluded by law from buying out existing shares at undervalued prices. This suggests that firms with private strategic information (like Defenders) are more likely to signal this information with debt issues than firms with private technological information (like Prospectors).

Berkovitch and Narayan (1993) develop a model in which firms can time their projects. If markets are not perfectly competitive and the investment and financing decisions are interlinked, then it is reasonable to assume that firms can also time their financing decisions. Again, high quality projects are more likely to be financed by debt than lower quality projects. Where product obsolescence occurs rapidly, firms are less likely to delay the investment even if it is of a lower quality. Hence, we are more likely to see equity financing for firms whose strategy leaves them more exposed to the effects of obsolescence – and we expect that Prospectors face higher rate of obsolescence than Defenders.

Another article that provides evidence of a link between strategy and financing decision is O'Brien (2003). O'Brien suggests that financial slack (or low leverage) is important for firms that value innovation because it allows the firm to have continuous access to funds for R&D, new product launches as well as for extending their knowledge base by acquiring other firms. This suggests that Prospectors will keep their debt levels low to maintain greater degree of financial slack.

P6: *Firms pursuing Defender strategies will have a greater proportion of debt in their balance sheets than Prospectors.*

Using the same three angles of information signalling, product obsolescence and need for financial slack, we can evaluate the likely financing choices of Analyzers. Analyzers, like Prospectors are likely to prefer equity financing because they are also affected by product obsolescence and the need for financial slack. However, the private information possessed by the managers of these firms is more likely to be of a strategic nature (like Defenders) rather than a technological nature. As a result, they are likely to value debt financing as a way of conveying this information to the market without disclosing it widely as well as a way of maintaining the excess profits for the existing shareholders. As a result, they may support more debt financing than Prospectors though their need for financial slack will keep their debt levels to rates below those of Defenders.

P7: *Firms pursuing Analyzers strategies are likely to have higher debt levels than Prospectors and lower debt levels than Defenders.*

Implications for Performance

The synthesis of both typologies helps elaborate the link between strategy and performance. Miles and Snow (1978) posit that, if properly implemented, the three “explicit” strategies should perform equally well. There has been mixed support for this contention (Zahra & Pearce, 1990). In addition, many of the studies which have addressed performance have not simultaneously addressed the risk associated with the particular strategy being employed (Aaker & Jacobsen, 1987; Fiegenbaum & Thomas, 1988; Jemison, 1987). One interesting

avenue for further research would be to examine the risk and return data, over time, for each of the types. If these archetypes allocate resources on the bases proposed In reply to: this paper, then one might expect that Defenders and Prospectors would earn higher returns, on average, than Analyzers and Reactors because of their commitment to pre-empt rivals and build a competitive advantage. On the other hand Analyzers and Reactors, because of their delayed investments pursue less risky strategies than the other two. Thus the following proposition is proposed:

P8: *Firms pursuing Defender and Prospector strategies will earn more variable returns than firms pursuing Analyzer and Reactor strategies.*

Using this approach, it appears that the Defender strategy is potentially the most profitable and the most risky. Given the focused and dedicated nature of its resource commitments, the Defender strategy is the most susceptible to exogenous shock, thus it is likely that Defenders change their “recipes” (Spender, 1988) in the face of exogenous shocks which vitiate the returns accruing to the strategy. The evidence provided by Zajac and Shortell (1989) that Defenders are the most likely to change strategy in the face of exogenous shocks is consistent with this contention.

CONCLUSIONS AND DISCUSSION

The Miles and Snow typology remains an important conceptual advance in the measurement of organisational strategies. Recently there have been attempts to improve the measurement

properties of the typology through the development of multiple item scales (Conant et al 1990). However, this paper proposes that inadequate attention has been directed at the content validity of the typology. In particular, although the “scope” of the enterprise is adequately represented in the definitions of the various strategies, the resource allocation decision decision is largely implicit. It is believed that linking the Miles and Snow typology to specific resource allocation and financing choices represents an important addition to the conceptualisation of the typology. As such the paper makes a number of contributions to the literature. First, by relating the strategy types explicitly to variation in performance (in terms of both risk and returns) the paper elaborates on the “grand theoretical assertions” (Doty & Glick, 1994) of the Miles and Snow typology. The ability to relate the types to performance variation is predicated on the links between the types and the flexibility of the resource commitment levels made by the types. Moreover, linking the “types” to specific actions may help elaborate the role of the Reactor in competitive markets. Reactor strategies have typically been assigned to the “scrap heap” by academic writers, yet the fact that they continue to exist raises concerns about either the accuracy of our academic endeavours or the intelligence of Reactor management. Conceptualising the Reactor strategy as being “uncommitted” in its resource allocations may help improve assignment accuracy and explain their longevity. Second, linking the typology’s constructs to slack, resource commitment and financing decisions should facilitate the emergence of a more complete description of the typology. It is hoped that this extended conceptualisation will facilitate researchers’ attempts to improve the accuracy of codifying and describing organisational strategies, which remains a crucial scientific task in the strategy field (Snow & Miles, 1983). Finally, the importance of investment in achieving national and corporate competitiveness is acknowledged. In the report “Building a Competitive America”, the

Council on Competitiveness identified the low rate of investment in American industry as one of the most significant barriers to increased competitiveness. In their analysis of the problem, the Council reported that America's investment rate was approximately half of Japan's. Investment is seen as critical to achieving efficiency, developing new products and enlarging the wealth of the community. Focusing on investment decisions concentrates research efforts on the "life and death" issues facing corporations. In addition, extending the logic of resource commitment choices may help clarify the links between strategic type, environmental attributes and performance. In addition, linking the "process" of strategy formation, emphasised by Miles and Snow, with the more "content" oriented insights of resource allocation decisions connects the two independent streams of strategy research. Such integration is important if the strategy field is to build an internally consistent body of theory relating to strategy.

FIGURE 1

THE COLLIS RESOURCE COMMITMENT TYPOLOGY

BREADTH/TIMING	NOW	LATER
NARROW	DEDICATED	INCREMENTAL
BROAD	INSURANCE	OPPORTUNISTIC

TABLE 1
A SUMMARY OF THE PROPOSITIONS

	DEFENDER	PROSPECTOR	ANALYZER	REACTOR
VARIABLE				
<u>Investment</u>				
Timing	First-mover	First-mover	Follower	Follower
Scope	Specialised	Plastic	Specialised	Plastic
<u>Collis Types</u>	Dedicated	Insurance	Incremental	Opportunist
<u>Financing</u>	N/d	Debt>Equity	Equity>Debt	Debt>Equity
<u>Performance</u>	Most variable profits	Less variable profits	Least variable profits	Less variable profits

REFERENCES

- Aaker, D.A. & Jacobsen, R. (1987) The role of risk in explaining differences in profitability. *Academy of Management Journal*, **30**, 277-296.
- Alchian, A.A. & Woodward, S.J. (1988) The firm is dead: Long live the firm. *Journal of Economic Literature*, **26**, 65-79.
- Amit, R. and Wernerfelt, B. (1990) Why do firms reduce business risk? *Academy of Management Journal*, **33**, 520-533.
- Andrews, K. (1971). *The concept of corporate strategy*. Homewood, Illinois Irwin.
- Ansoff, H.I. (1965). *Corporate strategy: An analytic approach to business policy for growth and expansion*. New York, McGraw Hill.
- Balakrishnan, S. and Fox, I. (1993) Asset specificity, firm heterogeneity and capital structure, *Strategic Management Journal*, **14**, 3-17.
- Berkovitch, E., and Narayanan, M.P. (1993), Timing of investment and financing decisions in imperfectly competitive financial markets. *The Journal of Business*, **66**, 219-248

Bhide, A. (1986) Hustle as strategy. *Harvard Business Review*. September/October, 1986, pp59-65.

Bourgeois, L.J. (1980) Strategy and environment: A conceptual integration. *Academy of Management Review*, **5**, 25-39.

Bower, J.L. (1970) *Managing the resource allocation process: A study of corporate planning and investment*. Boston: Graduate School of Business Administration, Harvard University.

Bowman, E.H. & Hurry, D. (1993). Strategy through the option lens: An integrated view of resource investments and the incremental choice process. *Academy of Management Review*, **18**, 760-782.

Brittain, J.W. & Freeman, J.H. (1980) Organizational proliferation and density dependent selection. In J R Kimberly and R H Miles (Eds.), *The Organizational Life Cycle*. San Francisco: Jossey Bass.

Campbell, T.A. (1979). Optimal investment financing decisions and the value of confidentiality. *The Journal of Financial and Quantitative Analysis*, **14**, 913-924

Chandler, A.D. (1962). *Strategy and Structure*. Boston. MIT Press.

Child, J. (1972) Organisational structure, environment and performance: The role of strategic choice. *Sociology*, **6**, 1-22.

Collis, D. (1990) The strategic management of uncertainty. *European Management Journal*, **10** (2) 125-135.

Competitiveness Policy Council. (1992). *Building a competitive America*. March.

Conant, J.S., M.P. Mokwa & P.R. Varadarajan, (1990). Strategic types, distinctive marketing competencies and organizational performance: A multiple measures-based study. *Strategic Management Journal*, **11**, 365-383.

Cool, K.O. & D.E. Schendel (1987). Strategic group formulation and performance: The case of the US pharmaceutical industry, 1963-82. *Management Science*, **33**, 1102-1124.

Day, G.S. (1990) *Market Driven Strategy*. New York, The Free Press.

Divir, D, Segev, E. and Shenhar, A. (1993). Technology's varying impact on the success of strategic business units with the Miles and Snow typology. *Strategic Management Journal*, **14**, 155-162.

Doty, D.H. & Glick, W.H. (1994). Typologies as a unique form of theory building: Toward improved understanding and modelling. *Academy of Management Review*, **19**, 230-251.

Fiegenbaum, A. & Thomas H. (1988). Attitudes toward risk and the risk-return paradox: Prospect theory explanations. *Academy of Management Journal*, **31**, 85-106.

Fox, I & Marcus, A, 1992. The causes and consequences of leveraged buy-outs. *Academy of Management Review*, 17: 62-85.

Ghemawat, P. (1991). *Commitment*, New York, The Free Press.

Hadjian, A. (1993) An interview with Andy Grove. **Fortune**, February 22, 25-27.

Hambrick, D.C. (1980) Operationalising the concept of business-level strategy in research. *Academy of Management Review*, **5**, 567-575.

Hambrick, D.C. (1982) Environmental scanning and organisational strategy. *Strategic Management Journal*, **3**, 159-174.

Hambrick, D.C. (1983) Some tests of the effectiveness and functional attributes of Miles and Snow's strategic type. *Academy of Management Journal*, **26**, 5-26.

Hatten, K.J., D.E. Schendel & Cooper, A.C. (1978) A strategic model of the US brewing industry: 1952-1971. *Academy of Management Journal*, **21**, 592-610.

Jemison, D.B. (1987) Risk and the relationship among strategy, organisational processes and performance. *Management Science*, **33**, 1087-1101.

Kerin, R.A., Varadarajan, P.R. & Peterson, R.A. (1992) First mover advantage: A synthesis, conceptual framework, and research propositions. *Journal of Marketing*, **56**, 33-52.

MacCrimmon, S.W. & Kolari, J.W. (1987) Marketing strategy implications of the Miles and Snow strategic typology. *Journal of Marketing*, **51**, 19-30.

McKee, D.O., Varadarajan, P.R. & Price, W.M. (1989) Strategic adaptability and firm performance: A market contingent perspective. *Journal of Marketing*, **53**, 21-35.

Meyer, A.D. (1982) Adapting to environmental jolts. *Administrative Science Quarterly*, **27**, 515-537.

Miles, R.E. & Snow, C.C. (1978) *Organizational Strategy, Structure and Process*, McGraw Hill, New York.

Miles, R.E., Snow, C.C., Meyer, A.D. & Coleman, H.J. (1978) Organizational strategy, structure and process. *Academy of Management Review*, **2**, 546-562.

Miles, R.H. & Cameron, K.S. (1982) *Coffin nails and corporate strategies*. Prentice Hall, Englewood Cliffs, New Jersey.

Miller, D. & Friesen, P.H. (1984) *Organizations: A quantum view*. Englewood Cliffs, New Jersey.

Mintzberg, H. (1978) Patterns in strategy formation. *Management Science*, **24**, 934-948.

Montgomery, C.A., Wernerfelt, B. & Balkakrishnan, S. (1989) Strategy content and the research process: A critique and commentary. *Strategic Management Journal*, **10**, 189-197.

O'Brien, J.P. (2003), The capital structure implications of pursuing a strategy of innovation. *Strategic Management Journal*, **24**, 415-431

Parnell, J.A. & Wright, P. (1993) Generic strategy and performance: An empirical test of the Miles and Snow typology. *British Journal of Management*, **4**, 29-36.

Parthasarthy, R. & Sethi, S.P. (1993) Relating strategy and structure to flexible automation: A test of fit and performance implications. *Strategic Management Journal*, **14**, 529-549

Peter, J Paul, (1981) Construct validity: A review of basic issues and marketing practices. *Journal of Marketing Research*, XVIII: 33-145.

Pindyck, R.S. (1991) Irreversibility, uncertainty, and investment. *Journal of Economic Literature*, XXIX: 1110-1148.

Porter, M.E. (1980) *Competitive Strategy*, New York, The Free Press.

Robins, J.A. (1992) Organizational considerations in the evaluation of capital assets: Toward a resource-based view of strategic investments by firms. *Organization Science*, **3**, 522-536.

Ross, S.A. (1977), The determination of financial structure: the incentive signalling approach. *Bell Journal of Economics*, Spring, 23-40.

Ruekert, R.W. & Walker, O.C. (1987). Interactions between marketing and R&D departments in implementing different business strategies. *Strategic Management Journal*, **8**, 233-249.

Sanchez, R. (1993) Strategic flexibility, firm organisation, and managerial work in dynamic markets: A strategic options perspective. In P Shrivastava, A Huff and J Dutton (eds), *Advances in Strategic Management*, Vol 9: 251-291. Greenwich, CT. JAI Press.

Sandberg, C.M., Lewellen, W.G. and Stanley, K.R. (1987), "Financial strategy: Planning and managing the corporate leverage position", *Strategic Management Journal*, **8**, pp. 15-24.

Shapiro, C. (1989) The theory of business strategy. *RAND Journal of Economics*, **20**, 125-137.

Sharfman, M.P., Wolf, G., Chase, R.B. & Tansik, D.A. (1988) Antecedents of organisational slack. *Academy of Management Review*, **13**, 601-614.

Snow, C.C. & Hambrick, D.C. (1980) Measuring organisational strategies: Some theoretical and methodological problems. *Academy of Management Review*, **5**, 527-538.

Snow, C.C. & Hrebiniak, L.G. (1980) Strategy, distinctive competence, and organisational performance. *Administrative Science Quarterly*, **25**, 317-336.

Snow, C. & Miles, R.E. (1983) The role of strategy in the development of a general theory of organizations. In P Shrivastava & C R Lamb *Advances in Strategic Management*, Vol 2: 231-259.

Spender, J.C. (1988) *Industry Recipes*, Basil Blackwell, Oxford.

Tang, M.J. & Thomas, H.E. (1994) Developing theories of strategy using dominance criteria. *Journal of Management Studies*, **31**, 209-224.

Thompson, J.D. (1967) *Organizations in action*. Prentice Hall, Englewood Cliffs.

Urban, G.L. & Star, S.H. (with Kessel-Hunter, K.L.) (1991) Sun Microsystems. In G.L. Urban & S.H. Star, *Advanced Marketing Strategy*, Prentice Hall, Englewood Cliffs, N J.

Van de Ven, A. (1992) Suggestions for studying strategy process: A research note. *Strategic Management Journal*, Summer, Special Issue, 169-188.

Venkatraman, N. & Grant, J.H. (1986) Construct measurement in organizational strategy research: A critique and proposal. *Academy of Management Review*, **11**, 71-87.

Wernerfelt, B. & Karnani, A. (1987) Competitive strategy under uncertainty. *Strategic Management Journal*, **8**, 187-194.

Williamson, O.E. (1988) Corporate finance and corporate governance. *The Journal of Finance*, XLIII: 567-591.

Zahra, S. (1987) Corporate strategic types, environmental perceptions, managerial philosophies, and goals: An empirical study. *Akron Business and Economic Review*, **18**, (2), 64-77.

Zahra, S. & Pearce, J.A. (1990) Research evidence on the Miles-Snow typology. *Journal of Management*, **16**, 751-768.

Zajac, E.J. & Shortell, S.M. (1989) Changing generic strategies: Likelihood, direction, and performance implications. *Strategic Management Journal*, **10**, 413-430.

Zammuto, R. (1988) Organizational adaptation: Some implications of organizational ecology for strategic choice. *Journal of Management Studies*, **25**, 105-120.