

**Real Organizations for Real Options:
*The Administrative Implications of
Creating and Exercising Real Options
through Corporate Diversification***

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ABSTRACT

Real Organizations for Real Options: The Administrative Implications of Creating and Exercising Real Options through Corporate Diversification

Diversified corporations competing in industries characterized by uncertain and rapidly changing structures can enhance their competitiveness by increasing their level of strategic flexibility, i.e., their ability to reconfigure divisional relationships to exploit shifting industry-level complementarities.

The value of this kind of strategic flexibility can be understood using a real options framework. Specifically, part of the value of a diversified portfolio of operating assets is a function of the present value of future synergies between currently unrelated businesses that are subject to market convergence. By diversifying and acquiring assets in industries subject to increasing complementarity, firms acquire the right, but not the obligation, to pursue interdivisional synergies when and as appropriate. In other words, under particular circumstances, diversification creates real options on the integration of currently separate operating units.

This paper investigates the administrative implications of attempting to create and exercise real options on future synergies through diversification. For whereas an investor can acquire and exercise a financial option simply by issuing the appropriate “buy” orders, creating and exercising a real option on future synergies has potentially significant organizational ramifications. Using a case study methodology, this paper examines the implications of a real options approach to diversification on the nature and quality of corporate-divisional and interdivisional relationships and proposes an administrative theory of real options diversification.

The basic frameworks used to understand the diversified firm have not changed in their essentials since the seminal works of the 1960s (Ansoff 1965). In particular, existing theories of diversification are essentially static, and leave corporate executives without meaningful ways to think carefully about their most important strategic challenges, such as determining the range of services that a firm should offer in order to compete most effectively. For example, in telecommunications, some important strategic questions are: Does a services provider need a wireless capability if it is to compete in the long distance market? How critical is the local loop network to the wholesale data market? Is broadband access a separate market, or will it become an essential complement to existing services? In other words, the scope of the firm has become a critical strategic variable.

Many firms competing in industries subject to this kind of uncertainty have responded by diversifying. Financial services firm Donaldson, Lufkin, and Jenrette has launched an online distribution channel and runs it as a separate business. Entertainment giant Disney has branched out into broadcasting (the ABC acquisition), and internet-based content (GO Network). Professional services firms WPP has built a complete arsenal of capabilities, from public relations to advertising and beyond. And telecommunications colossus AT&T has invested billions to develop a local loop infrastructure, broadband access, a wireless network, and more.

These diversification initiatives seem to provide more than merely growth or profitable new businesses. In almost every case, there appear to be opportunities for future synergies between these new ventures and core operations. Whether these future synergies will be valuable depends upon how competitive conditions unfold, and so there is a desire on the parts of these firms not to commit unnecessarily to such integration. In other words, the diversification initiatives of these firms seem to provide the right, but not the obligation, to pursue interdivisional linkages when and as appropriate. That is, this particular type of diversification seems to constitute a real option on future synergies. This paper will attempt to motivate the need for a real options approach to diversification, and begin to develop an administrative theory of real options diversifiers.

Theoretical Framework

Established Corporate Contingency Theory

When firms diversify, the natures of their diversification strategies are typically characterized by the relationships that obtain between current businesses and new ones. The cornerstone typology of these relationships holds that old and new businesses can be: (i) related by technologies or markets; (ii) vertically integrated by virtue of internal supply relationships; or (iii) if linked in neither of these two ways, unrelated (Ansoff 1965). These three possible relationships — related, vertical, unrelated — are called here the “dimensions” of diversification.

Whatever the dimensions of diversification pursued, the finance literature has observed a persistent and material “diversification discount”; that is, controlling for other factors that might affect firm level economic performance, single business firms perform better than multi-business, or diversified, firms (Lang and Stulz 1994; Berger and Ofek 1995). In the face of this performance penalty, the existence of diversified firms is attributed by some to imperfections in the market for corporate control (Jensen 1989). Nevertheless, just as not all single business firms are successful, not all diversified firms perform poorly, and at the juncture of economics and general management emerges a theory of the profit-maximizing diversified corporation.

At its core, this theory is based on the relative efficiency of given structures in mediating economic transactions. A firm diversifies in order to internalize certain transactions because in so doing it is able to execute those transactions relatively more efficiently than a market mediating between two single business firms. Each dimension of diversification is argued to be a response to failures in specific markets: related diversifiers compensate for failures in resource markets; unrelated diversifiers compensate for failures in capital markets; and vertical diversifiers compensate for failures in bargaining situations (Dundas and Richardson 1980; Hoskisson 1987). In addition, each of unrelated, related, and vertical diversification is seen to be most effectively implemented with specific, and very different, administrative structures (Lorsch and Allen 1973; Vancil 1978; Hill, Hitt et al. 1992).

In other words, successful diversification is a function of a fit between compensating

for market failure, the type of diversification pursued, and the administrative systems adopted by the diversified firm. This framework is called here “corporate contingency theory.”

Real Options and Corporate Value Added

Corporate contingency theory has implicit within it a relatively static view of the corporate portfolio with respect to the nature of the relationships between divisions. For although the acquisition and divestiture of operating divisions has always been part of the corporate strategy framework, whether two divisions were vertically integrated, resource related, or unrelated has been taken largely as given. The corporate center’s role is typically restricted to identifying these linkages and managing them effectively.

In recent years, however, technological and regulatory changes have begun to erode the boundaries that have traditionally separated a large number of industries, especially telecommunications, computers, consumer electronics, and media. The phenomenon is colloquially known variously as “digital convergence” (Tapscott 1995), “megamedia” (Maney 1995), “communicopia” (Simon, Kaplan et al. 1992), and “infocom” (Chakravarthy 1997), among other similarly slippery monikers. Whatever the differences in labeling, the thrust of these arguments is the same: in the industries most directly involved in the creation, processing, and distribution of information, digital technologies are creating new and rapidly increasing degrees of complementarity and substitutability between formerly separate and segregated product markets.

The new permeability of industry boundaries is throwing into question the nature of the relationships between operating divisions within firms. For example, whereas once companies with wireline and wireless telephony operations ran these divisions as essentially separate businesses, they are now faced with the possibility of high levels of operational integration in everything from retail distribution to network provisioning. In other words, the nature of the relationships between operating divisions within some diversified firms is becoming dynamic — not necessarily as a result of corporate strategy, but as a result of exogenous changes in industry structure.

Consequently, some firms are taking the offensive and challenging industry boundaries in order to test the viability of new products, services, and entire business

models (Tapscott 1999). Technological advancements have made it possible for “new” technologies to provide “old” services (e.g., digital wireless telephony), and for “old” technologies to provide “new” services (e.g., internet access over the local loop) (Cairncross 1997). The result is a good deal of uncertainty with respect to the optimal scope of the firm in this new “converged” competitive space, and a resulting need on the part of the companies affected to test multiple approaches simultaneously (Gates 1996). As firms venture beyond their traditional markets, technologies, and business models, many are finding themselves coming into competitive contact with firms pursuing very different strategies (Moore 1996). The result is heightened competition and dramatically increased uncertainty on all fronts (D’Aveni 1994).

Most of the commentary on the convergence phenomenon in the citations above has focused on the nature of the strategic responses pursued by firms; that is, which acquisitions make the most sense for which firms, and so on. What scholarly research there has been into organizational responses to convergence has focused on decision making and the appropriate role of top and middle management in coping with turbulence (Chakravarthy 1997; Eisenmann and Bower 1999).

What has not been explicitly addressed is the fact that almost without exception firms are coping with convergence through varying degrees of diversification. That is, faced with uncertainty surrounding the appropriate scope of the firm in the new competitive space defined by telecommunications, computers, and media, almost all the major players are diversifying into newly adjacent territories in search of the new models of competition.

Diversification in response to this kind of uncertainty is a very different phenomenon from that traditionally studied. Typically, diversification is understood either as a way for firms to mitigate product, financial, or labor market risks (Donaldson and Lorsch 1982), as means to compensate for specific market failures (Dundas and Richardson 1980), or as a consequence of the desire to grow (Penrose 1959). But diversification efforts in the face of industry level convergence are about establishing beachheads along an uncertain battlefield that spans multiple competitive contexts. This kind of diversification is a mechanism for coping with strategic uncertainty by enabling a firm to

redefine its scope quickly in order to exploit new opportunities.

In other words, firms are diversifying not merely to capture current synergies, but also in anticipation of future synergies and complementarities between currently unrelated businesses. This suggests that at a portfolio level diversified companies are coping with convergence by taking real options on future synergies between operating divisions. These options open up the possibility for the diversified firm to pursue different strategic paths depending on how it shapes and chooses to respond to the relevant competitive pressures. That is, the acquisition of real options on future synergies creates a new kind of corporate level strategic flexibility.

Applying a real options lens to the diversified firm in this way appears to go beyond the established limits of both corporate contingency theory and real options theory. Corporate contingency research is rooted firmly in the market failures paradigm (Ramanujam and Varadarajan 1989; Hoskisson and Hitt 1990; Montgomery 1994). The real options literature has tended to focus on discrete investment projects such as research and development, extra production capacity, or product launches (Trigeorgis 1995; Amram and Kulatilaka 1999). Although there has been an prolonged effort to apply a real options framework to joint ventures, this work has not looked at diversification *per se*, and has instead focused on the option value of buying or selling out to one's joint venture partner (Chi 2000). It is therefore fair to say that this and most other real options research has had as its objective uncovering, modeling, and valuing the real options that are naturally embedded in the structure of a wide range of investment decisions.

In contrast, the present research applies real options thinking to the diversified company, in particular the real options potentially contained in particular types of portfolios of operating assets. It is not enough, however, merely to attempt to describe the structure of "options bearing" portfolios. Established corporate contingency theory has shown that diversified firms cannot be characterized merely by the structure of their portfolios. Rather, it is the nature of the fit between portfolio structure and administrative systems that defines whether or not a multi-business firm is efficient. It is therefore reasonable to suggest that the existence of potentially valuable real options on future synergies in a given portfolio depends not merely on portfolio structure but also on the

administrative processes in place in such firms. And whereas the organizational implications of the traditional sources of corporate value added have been thoroughly studied and are well understood, what the organizational implications of adding value through creating and exercising real options on future synergies might be is an entirely new area of investigation. The purpose of this paper, then, is to describe the possibly unique administrative characteristics of firms with real options embedded in their portfolio structures and to develop a theory that explains those differences.

Methodology

This research is neither an attempt to determine the incidence of diversified companies with portfolio-based real options, nor to value explicitly any options that might be embedded in a given portfolio of assets. Rather, it is an effort to generate theory concerning what, if any, are the unique administrative characteristics associated with option driven diversification.

As theory generating research, quantitative methods are inappropriate, since these methods require well defined hypotheses that can be tested. Consequently, a qualitative case study approach is adopted. Furthermore, since the question guiding this research concerns the differences between two putative types of diversified firms, a comparative analysis is appropriate (Glaser and Strauss 1967). In such a design, sample selection is driven not by statistical concerns, since the cases are not intended to represent a larger population. Instead, field sites are chosen based on the desire to maximize the probability of observing any possible differences of interest, an approach known as theoretical sampling.

Two critical elements of a comparative analysis, theory generating case study drive the quality of the findings: the nature of data collection and the selection of field sites. In order to generate theory effectively, data collection must necessarily be somewhat unstructured. At the same time, making sense of an extremely rich and data-intensive environment requires some boundaries to guide the fieldwork (Yin 1994). Similarly, unless the field sites provide a genuine opportunity to observe the differences of potential interest, the research will be unsuccessful. The next two sections address each of these concerns.

Data Collection

The central finding of corporate contingency theory is that the defining element of the diversified firm is not its portfolio structure, but the nature of its corporate-divisional and interdivisional relationships. Therefore, investigating the nature of any differences in the administrative systems between diversified firms requires gathering detailed data on precisely these same elements.

Such data are not easily obtained. Corporate-divisional and interdivisional relationships are defined by the internal workings of the firm. Therefore, I gathered field data in the form of structured interviews with corporate and divisional managers at each site. I interviewed thirteen executives at Sprint Corp., one of the field sites, including the COO, EVP of Finance, EVP of Strategy, and the heads of the major operating divisions. At AlliedSignal, the second field site, I interviewed 8 executives, including the COO, CFO, and EVPs of the two largest groups.

The interviews were conducted during the fall of 1999 and focused on three elements of administrative practice, in keeping with frameworks developed in the diversification literature (Chandler 1962; Hill 1994). Specifically, I asked executives at each firm to comment on structure, systems, and processes within their firms.

A first approximation of firms' structures is captured in organization charts, which typically represent lines of authority as manifested in reporting relationships. The systems investigated were restricted to those thought to have the greatest relevance to corporate-divisional and interdivisional interaction, namely, compensation and control (Hill, Hitt et al. 1992). Finally, two processes in particular were singled out for examination: identifying and exploiting synergies, and developing and implementing strategy. These processes are expected to highlight the different roles of operating versus corporate or group management in capturing the value of diversification (Campbell and Goold 1999).

Field Sites

Diversification Profile

Corporate contingency theory has established that different types of diversification require different types of administrative systems. Therefore, in attempting to generate

theory for a type of diversification not captured by existing theory, it is important to control for diversification type, conventionally understood. The two field sites chosen here manifest related and unrelated diversification, as understood by the benchmark typology of diversification when doing managerially oriented field based research (Rumelt 1974; Ramanujam and Varadarajan 1989).

Growth versus Option Diversifiers

Selecting field sites for this research requires meaningful criteria by which one might determine *ex ante* whether or not a firm might contain valuable options on future interdivisional synergies, and so exhibit new or unique managerial processes.

The need or the ability of the corporate office to create value by taking real options on future synergies is expected to depend greatly on industry-level forces. For example, convergence pressures in the telecommunications and media industry make it possible for firms competing in this space to generate real option value through the structure of their portfolios. In the absence of these kinds of pressures, firms are not expected to be able to create any particular real options based value.

This suggests that firms competing in industries affected by convergence pressures are likelier to be “real option diversifiers” than diversified firms competing in more stable or predictable industries. These latter firms are perhaps best understood using existing theory, and are therefore called “growth diversifiers.”

When a firm diversifies primarily in search of growth, it is, by definition, a growth diversifier. In contrast, when a firm diversifies in order to generate the possibility of integrating businesses at some point in the future, it is by definition a real option diversifier.

A growth diversifier is likely to diversify in a manner consistent with established diversification theory. That is, a growth diversifier will typically use diversification to increase revenues and profits, and smooth earnings flows; there will be at a technological level comparatively little opportunity for future synergies between many of the businesses in the portfolio. Therefore, diversification in a growth diversifier is likely to be accretive to earnings, and the businesses entered are likely to have different business cycles. For example, a diversified firm with a large presence in highly cyclical

commodities markets might acquire a profitable consumer products company.

In contrast, a real option diversifier will be less concerned with the profitability of new divisions, and will look more toward future synergies than to short term gain. For example, a telecommunications company might launch an internet portal: despite the enormous and prolonged negative cash flows, a large part of the value of the new venture is argued to lie in the development of synergies between existing and new businesses.

Colloquially, the difference is essentially this: growth diversifiers diversify in order to “escape” existing businesses — not because they are necessarily unprofitable, but because they have certain unavoidable and unfortunate characteristics, such as extreme cyclicalities or high levels of regulation, that can be ameliorated at the level of the corporation only by diversifying into other businesses. Real option diversifiers, in contrast, diversify in order to “build” the value of existing businesses. That is, core assets are seen to have tremendous potential value that is best released within the context of a more diversified organization. This distinction constitutes Criterion #1 in differentiating between growth and real option diversifiers.

The second criterion that distinguishes growth diversifiers from real option diversifiers is more behavioral in nature, and concerns divisional linkages within the firm. The claim is that interdivisional relationships in growth diversifiers will be largely unchanging, but in real option diversifiers interdivisional relationships will be much more dynamic.

In order to exploit emerging synergies, the nature of the relationships between divisions must be subject to change; namely, unrelated divisions will have to cultivate divisional relationships in order to capture the synergies that underlie the value of the real option. In contrast, diversifiers with portfolios containing related or vertically linked divisions yet few real options on future synergies will have no reason to change the nature of divisional linkages: what is related now will remain related; what is unrelated now will remain unrelated.

This suggests that a diversified firm with dynamic interdivisional relationships is a real option diversifier, since the dynamism amounts to the exercise of a real option that has come into the money. Largely static interdivisional relationships, on the other hand,

are much more consistent with a diversification effort driven by the desire to achieve growth objectives.

Based on these criteria, the real option diversifier chosen for study is Sprint Corporation (Sprint), a \$20 billion telecommunications firm competing in the archetypal convergence industry. The growth diversifier chosen for study is AlliedSignal Corporation (Allied), a \$15 billion dollar traditional diversified firm competing primarily in the aerospace industry, but which divisions in the chemicals, automotive, and consumer products, and defense industries as well.

Sprint Corporation¹

Criterion #1: Real Option Driven Diversification

As a response to the relative neglect of rural Kansas by Bell, the Brown Telephone Company began operations in Abilene, Kansas in 1901. Over the next 60 years the company grew rapidly, expanding its local loop service area and diversifying into the manufacture and distribution of telecommunications equipment.

In 1977, the company divested its manufacturing arm, but retained its distribution subsidiary. It also kept its publishing arm in order to comply with the regulatory requirement that companies operating a local loop network publish a directory. The firm also began experimenting with fiber optic cable and digital switching.

In 1983, Bill Esry, president of the re-named United Telecom (United), entered the newly deregulated long distance market. Initially a satellite based data transport provider, United planned to construct a fiber optic network across the United States, but to do it, Esry reasoned he needed a well capitalized partner. This he found in GTE Corporation, at the time America's largest non-Bell telecommunications company. GTE had just entered the long distance market through its purchase of the Southern Pacific Railroad's communications subsidiary and its Switched Private Network Telecommunications, or SPriNT group. Together, the two companies launched a 50-50

¹ In late 1999 Sprint announced a merger with the second largest long distance provider in the US, MCIWorldcom. This research was conducted before this merger affected any of the informants used or the subjects discussed.

joint venture in the form of a limited partnership called US Sprint.

By 1989 the company was operationally successful. GTE, however, needed cash to fund other areas of its business, and sold its share in US Sprint to United in two tranches, the second completed in 1992. United continued to expand its long distance operations, taking stakes in international long distance joint ventures or long distance companies with British, Canadian, and Mexican telecommunications firms.

With the completion of the GTE buyout in 1992, the company dropped “US” from its name, and changed United Telecom’s name to Sprint. The next year, the newly christened Sprint Corporation acquired Centel, a local telecommunications provider in 13 states and at the time the US’s eighth largest cellular provider. Less than two years later, in late 1994, Sprint entered into a joint venture agreement with three cable operators, Tele-Communications Inc. (TCI), Cox Enterprises Inc., and Comcast Corporation, with the intent to launch wireline, wireless, and cable TV services. Sprint owned 40%, TCI owned 30%, and Cox and Comcast each owned 15%. The agreement called for the partners to contribute \$4.4 billion over the first three years to acquire spectrum licenses and build infrastructure.

By mid-March 1995 the joint venture, known then as Sprint Spectrum, had committed \$2.1 billion to the spectrum auctioning process and had established a national footprint of 29 metropolitan areas covering over 184 million people in the 48 contiguous United States. This had important implications for Sprint’s cellular division, which had cost the company more than \$700 million as part of the Centel acquisition. The re-named Sprint Cellular was growing rapidly, having signed on over 1.25 million customers, was generating revenue of over \$825 million, and accounted for over 20% of Sprint’s overall growth in cash flow. But FCC regulations prohibited companies from holding both cellular and PCS licenses in the same markets, and the company would have had to shed a significant portion of its cellular assets if it were to acquire control of Sprint Spectrum. Instead of a piece-meal break up, Sprint sold the division in March 1996. In 1998, Sprint bought out its cable partners through the issue of a PCS tracking stock tied to the performance of the PCS division.

The company continued to diversify into new communications technologies and

services throughout the 1990s. Notable examples include taking a minority stake in Earthlink, a major internet service provider (ISP), the \$400 million acquisition of Paranet, a network integration service provider, and the investment of over \$1 billion in the acquisition of Multichannel Multipoint Distribution Services (MMDS, or “wireless cable”) assets as an entry into broadband local loop. Internationally, the company acquired stakes or launched joint ventures in Canada, Mexico, the UK, France, and Germany, with the capability to provide direct dial access over its own network to dozens of other countries throughout Europe and Asia.

At one level, Sprint and its predecessor companies were diversifying “out” of the highly regulated, if highly profitable and stable, local loop telephony business. This would suggest that Sprint, historically at least, has been a growth driven diversifier. However, since the 1993 acquisition of Centel, the company’s diversification efforts appear designed to assemble a suite of complementary assets to compete more effectively in the telecommunications industry, writ large. Specifically, technological change is blurring and increasingly obliterating the boundaries between various types of telecommunications services. Consequently, each of Sprint’s new businesses is better seen as an attempt to complete Sprint’s arsenal of product and service offerings. Therefore, it is reasonable to conclude that Sprint has transformed itself from an “escaping” diversifier into a “building” diversifier, and so is consistent with the first criterion of a real option diversifier.

Criterion #2: Dynamic Interdivisional Linkages

A central rationale for operating in multiple segments of the telecommunications market is the ability to exploit converging technologies and reduced regulation to offer “bundles” of products and services to customers. From a service provider’s perspective, the goal is to create a more valuable service offering that is also cheaper to provide, thereby improving margins by increasing price and simultaneously reducing cost.

Sprint, with local, long distance, wireless, and internet access, is the only major telecommunications company in the United States with a portfolio of services that runs the gamut of converging technologies. At a management retreat in Colorado in the Spring of 1998 senior corporate management articulated the One Sprint initiative,

designed to integrate the product and service offerings of local telephone service, managed by the Local Telephone Division (LTD), consumer and business services (CSG), and PCS wireless (PCS). Two new corporate positions were created to facilitate the implementation of this strategy: One Sprint Consumer, responsible primarily for product development and marketing initiatives, and One Sprint Architecture, responsible primarily for ensuring that Sprint had the technological capabilities (e.g., network architecture, billing systems) to deliver bundled products.

Tom Weigman, Senior Vice President, One Sprint Consumer, describes the reasoning behind One Sprint:

An important first step in renewing our business model was to find a way to leverage the market power of the entire organization. That meant our various product divisions — LDD, CSG, PCS — had to find a way to work together so that each could be as powerful in the marketplace as all of Sprint.

Among the first attempts at product bundling was the integration of local and long distance service offerings. In virtue of its incumbent position, LTD has preferential access to new accounts, and so was a possibly valuable distribution channel. Exploiting this advantage, however, has been a years-long process, for LTD had traditionally been run as an entirely separate fiefdom. Consequently, attempting merely to capture customer information or transfer customer contacts to CSG sales representatives made it very difficult to motivate LTD employees to sell effectively Sprint's long distance services. What has been required is a more integrated product development and sales effort. What emerged was a bundled product offering of local and long distance services designed by a joint marketing team and sold in Sprint's local territories exclusively by LTD personnel. The result was that in geographies where Sprint is the local loop provider, Sprint's share of the residential long distance market from a national average of 7% to over 27%.

A second bundling initiative that as of late 1999 was still in the preliminary stages involved the cooperation of CSG with Sprint's PCS wireless division (PCS). Where LTD has preferential access to the consumer due to its incumbency position in certain local markets, PCS, launched in 1998, has been extremely successful as a new entrant into the wireless market, signing on 4 million customers in its first full year of operation. The

bundling challenge is to build an integrated product and sales process that does not upset the momentum that PCS has been gathering since its launch. Weigman explains:

There has been an ongoing discussion around what we call “block of time light” (BOTL) also known as “bottle.” PCS is on track to sign up over 4 million customers. That’s 4 million customer contact opportunities that Sprint didn’t have before PCS. So CSG has been working with PCS to add the long distance sale on to that customer contact opportunity.

But there’s a problem: the dynamic of the PCS sale is that it takes a consumer 90 days and 3-4 visits to a retail location before they actually sign the service contract. To make this process efficient and effective, PCS has done a masterful job at standardizing the approach. Changing that now by essentially “tacking on” a long distance pitch at the end of this long, arduous, expensive process is exactly what they don’t want to do; it would open up the customer’s entire decision making process all over again.

Now, PCS’s “Free and Clear” strategy is built on selling fixed blocks of time. The sticking point in the sale is frequently that customers feel that one plan doesn’t provide enough talk time, and the next plan up provides too much. By moving away from the paradigm of “selling PCS, then selling long distance,” as if they were two separate products, we can help solve that problem: we let them use the full minutes on PCS or long distance. And when we introduce that concept, their long distance minutes become part of the contract, and instead of worrying about using, for example, 500 minutes in a month on their PCS phone, we can sell them 750 minutes, since we’re bundling in their long distance usage as well.

The result is that what we sell for 5¢ a minute in the CSG group, we can sell for 10¢ a minute by bundling it with the PCS sale, and the customer receives increased value.

These examples of product bundling demonstrate a high degree of dynamism in the nature of interdivisional relationships between several of Sprint’s operating divisions.

Conclusion

In virtue of its diversification initiatives into industries subject to industry level convergence and its dynamic interdivisional linkages that have served to integrate what were once independent divisions, Sprint appears to be a good example of a real option diversifier.

AlliedSignal Corporation²

Criterion #1: Growth Driven Diversification

AlliedSignal Corporation's predecessor company, Allied Corporation, was founded as the Allied Chemical & Dye in 1920 through the combination of five diversified chemical companies, and in the subsequent 60 years branched out into many chemical intermediates and manufactured products. In May 1979 Edward L. Hennessy, Jr. became the CEO, and accelerated the transformation of the company from a diversified chemical manufacturer into a true conglomerate. In Hennessy's words, "many of our businesses were vulnerable to economic downturns, and we had too few growth businesses on which we could count for future profitability."³

The result was a series of acquisitions: the purchase of Electra Corporation in 1979 and Bunker Ramo Corporation in 1981 took the company into the growing electronics field. Also in 1981, the acquisition of Fisher Scientific took the company into health care. The company moved into automotive and aerospace with the acquisition of Bendix corporation in 1983 and the Signal Companies 1985. This last acquisition created AlliedSignal Corporation (Allied).

From 1983 to 1990 the company's performance steadily deteriorated, culminating in the appointment of Lawrence A. Bossidy in July 1991 as CEO. Hennessy continued as Chairman of the Board until the end of 1991, when Bossidy was elected to that position, as well.

Allied's turnaround did not involve a material restructuring of the portfolio. Instead, Bossidy unilaterally established a series of demanding financial targets and infused Allied's management ranks with dozens of new hires poached from Bossidy's former employers, mostly General Electric and Xerox. The new management team primarily filled staff functions. Among other things, they were responsible for promulgating Total Quality Management throughout the organization, which included a drastic rationalization of the organization's supplier base. In addition, senior managers all the

² In late 1999, AlliedSignal announced a merger with Honeywell Corporation. This research was conducted before this merger affected any of the informants used or the subjects discussed.

way up to Bossidy became deeply involved in recruiting — not just from other companies, but even from college campuses. All the while, Bossidy kept the heat on growth, including acquisitions. The only proviso was that targets had to be closely related to current businesses, for although Bossidy saw no need for the company to reduce its scope of operations, the product market expansion of the 1980s was over.⁴

Allied, then, became diversified in order to pursue growth and escape cyclicity in its core businesses. Its current portfolio of assets is the result of these initiatives. It would appear, then, that Allied meets the growth diversifier requirements of Criterion #1.

Criterion #2: Static Interdivisional Linkages

In order for Allied to meet this criterion, the operating divisions within the firm must exhibit related or unrelated diversification, and the nature of these linkages must be largely static.

The firm appears to meet both these requirements. In the first instance, Allied's diversification portfolio consists of both related and unrelated divisions. For example, the Aerospace division consists of several operating units, all of which share process and product technologies within the group, thereby manifesting related diversification. The units within the Aerospace group work very closely together to create complete, yet modular, product systems for customers. According to Bob Johnson, Executive Vice President of Allied and President of Aerospace, Allied's strategy in the aerospace industry is to create value for customers by providing complete technological solutions, rather than separate, if excellent, products which the customer must then integrate into their products. These linkages, once identified and established, are managed and maintained by the operating managers directly involved. Johnson's role is to identify new opportunities for integration, either by combining existing products and services in innovative ways, or bringing new technologies into the aerospace group that can facilitate the creation of more value added product and service offerings.

In contrast, the Consumer Products division is constituted primarily of a single

³ Allied Corporation: Strength Through Diversification, Edward L. Hennessy, Jr., Newcomen Society, New York, 1984.

⁴ "AlliedSignal's Turnaround Blitz," Thomas A. Stewart, *Fortune*, November 1992.

operating unit that has little or no interaction with other divisions within Allied. Such a division is therefore an example of unrelated diversification within the firm.

Therefore, although Allied manifests interdivisional linkages that constitute both related and unrelated diversification, the nature of these linkages appear to be highly static. That is, which divisions are related to which, and in what ways, is stable and predictable.

Conclusion

Allied became diversified as a path to growth and to smooth earnings flow. Its portfolio of related and unrelated divisions and the linkages between its divisions are largely unchanging. Consequently, the firm is accurately classified as a growth diversifier and appears to provide a good foil for Sprint.

Summary

This study is a comparative analysis of two diversified firms that are argued to be fundamentally different in the nature of the value created by their diversification efforts. The first, Sprint, is argued to be a real options diversifier while the second, Allied, is a more conventional growth diversifier. These sites are chosen because they are seen as archetypes of these possible categories. Data are gathered on critical corporate-divisional and interdivisional issues through directed interviews with relevant executives, and the aim is to generate theory that explains any observed differences in administrative processes.

As a final note, it is useful in this sort of research to control, insofar as possible, for firm-level performance. That is, one would not want to base conclusions regarding differences between option and growth diversifiers on a comparative analysis of a “high performing” real option diversifier and a “low performing” growth diversifier; ideally, the comparison should be of firms that perform at similar levels within their categories.

Unfortunately, it is not practical to categorize the universe of firms as growth or option diversifiers and then rank Allied and Sprint. The best that can be done here is to observe that both Sprint and Allied are comparatively high-performing firms within the

universe of companies publicly traded in the US.⁵ Each is also among the most respected companies in America.⁶ Finally, each has survived for a substantial period of time both within their industries and overall (Ager and Piskorski 2000), suggesting that whatever their characteristics, these firms have achieved a reasonable fit with the demands of their environments (Van de Ven and Drazin 1985). Consequently, to the extent possible, a comparative analysis of Sprint and Allied seems an appropriate one upon which to build theory.

Findings

Sprint and Allied have similar diversification profiles, insofar as each firm manifests multiple dimensions of diversification, specifically, related and unrelated. Yet, the firms appear to have quite different approaches to structure, systems, and processes.

Structure

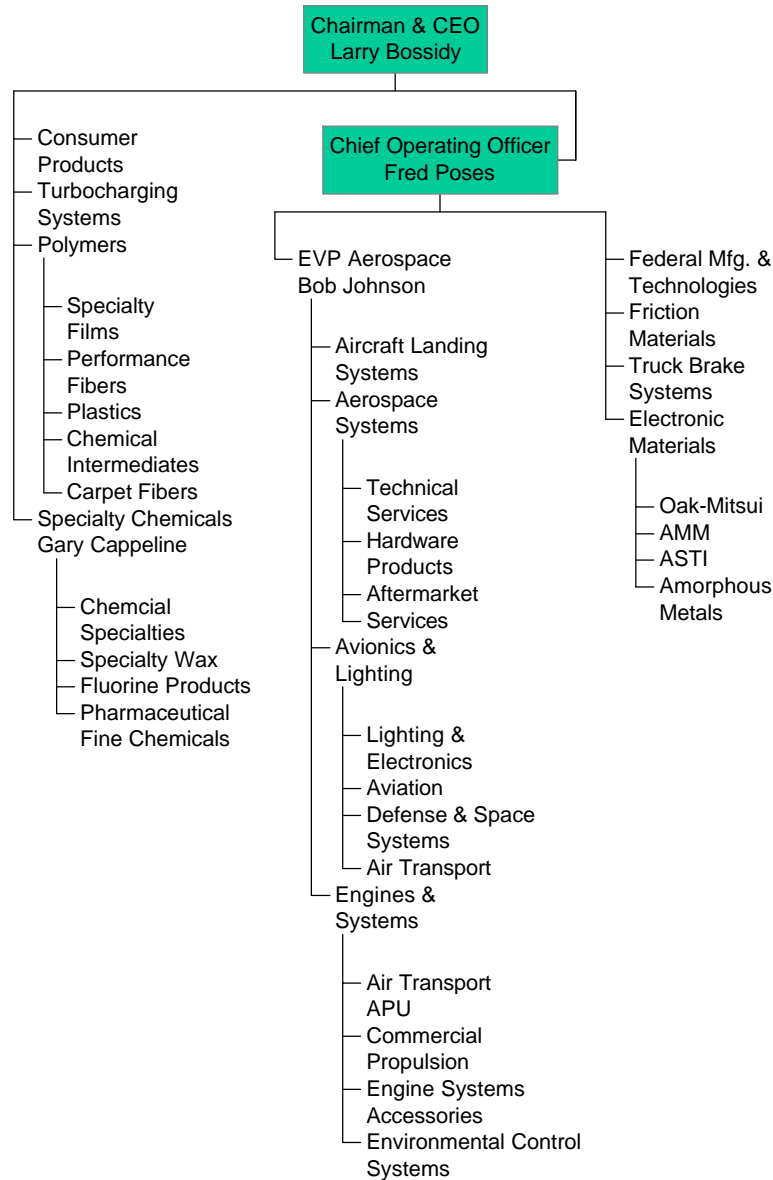
At Allied, the organizational chart clearly reflects the nature of the linkages between operating divisions. The Aerospace group consists of operating divisions that have material linkages with each other, as does the Chemicals group. Four operating executives report directly to Bossidy, the CEO, along with the Finance, Human Resources, Legal, and Information Technology staff functions. The COO, Fred Poses, has seven operating executives reporting to him, along with the Growth and Six Sigma staff functions (see Figure 1). Consequently, the determination of reporting lines into the CEO or COO does not appear to follow a “relatedness” logic. Poses explains:

There’s no real structural significance to whether divisions report to me or to Larry Bossidy’s office. For at least one division, he [Bossidy] wanted to continue to develop the divisional manager. A couple of other businesses I knew well, so I got them. Also, I had no experience in aerospace, so I got the aerospace business as part of my development as a possible successor to the CEO’s position, since the best way for me to be successful in that role would be with a broad experience of the whole company, and getting exposure to aerospace was an important part of that.

⁵ Sprint, Allied, and the S&P 500 composite have one year returns of 8.2%, -4.6%, and 10.2%; five year returns of 40%, 23.8%, and 23.8; and ten year returns of 16.6%, 22.2%, and 17.4%, respectively (source: Compustat).

⁶ Sprint and Allied were ranked 3rd in their industries in the 1996 *Fortune* survey, “America’s Most Admired Companies.” Sprint was ranked 250th, and Allied 119th, out of 430 companies ranked in the survey (Ager and Piskorski 2000).

Figure 1: AlliedSignal's Organization Chart

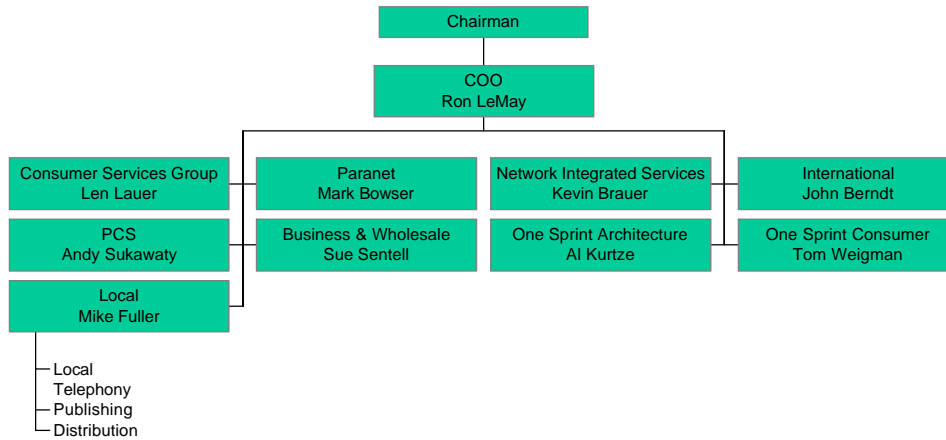


What the group structure appears to do, then, is codify and institutionalize the nature of interdivisional relationships within the firm. All material interdivisional linkages are captured by the group structure, and no two divisions that have material linkages with each other report directly to the COO or CEO position.

In contrast, Sprint's organizational structure does not formalize the nature of the linkages between operating divisions in nearly so rigid a manner, for all major operating

divisions report directly to the COO (see Figure 2). Unlike Allied, the organization chart at Sprint does not reflect the nature of interdivisional linkages, either extent or emerging.

Figure 2: Sprint’s Organization Chart



Beyond the organizational structure at Sprint, the company’s financial structure also suggests some important differences. Financial structure is not an element that was originally expected to be significant. However, one of the strengths of theory generating research is the freedom to remain open to these kinds of observations.

Sprint’s equity trades in two classes of “tracking stock”: PCS, which is linked to the performance of the PCS division, and FON, which is linked to the rest of company’s performance. Tracking stocks are relatively new in the world’s capital markets, having been introduced in 1984 by General Motors when it floated a tracking stock for its EDS division (Wirth 1995).

What makes tracking stocks unusual is that they confer no ownership right to specific assets in an organization. In Sprint’s case, for example, both FON and PCS shareholders are common shareholders of the overall corporation, and jointly have their share capital at risk for the corporation’s liabilities. Since there remains a single corporation, despite the existence of two share issues, a single management team and board of directors is the ultimate decision making body for both entities (i.e., the PCS division and the rest of Sprint).

Consequently, the PCS and FON issues provide a shareholder with a claim on any

dividends that corporate management chooses to declare associated with the profitability of the set of assets that a given tracking stock is stipulated to “track.” This has translated into a dividend being declared on the FON stock, consistent with Sprint’s historical practice for its wireline telecommunications business, while the PCS stock has declared no dividends in light of the fact that the division is still in the capital intensive, start-up phase of its life cycle.

Sprint’s purpose in issuing a tracking stock for the PCS division was to buy out its cable partners in the original Sprint Spectrum LLP that launched the PCS venture in 1994. Using a tracking stock in this way spared Sprint the need to issue equity on its other assets, which, because it trades at a lower multiple than the fast growing PCS division, would have been far more dilutive to Sprint’s existing shareholders.

In the short term, the operational limitations imposed by this structure appear to be minimal. Ted Schell, Senior Vice President of Strategy and Corporate Development, explains:

What we have is a requirement that we manage the asset bases of the two tracking stocks in a way that really maximizes value for each shareholder group independently, as we have fiduciary responsibilities to two classes of shareholders, although we do retain the right to do what is based for both shareholder groups, taken as a whole. It’s an intricate balance. In theory we have to be very careful how we make decisions, and so in theory there is a governance issue. In reality we have no more or less problem in the way in which we operate that division than we do the long distance division.

Just as Sprint’s lack of a rigid group structure reflects the need for flexibility, the tracking stock covenants have been structured to provide the company with considerable financial flexibility. In particular, the redemption provisions on the PCS issue allow Sprint to recombine the two issues at Sprint’s discretion, something potentially necessary in order to capture the full value of Sprint’s scope of operations. Schell explains:

It is quite possible that as we get a little further down the road, and when you really get into bundling product, into really integrated product development, then the ability to address how you cross-subsidize products or who takes margin hits in a package – those are the kinds of things which in all likelihood one day will cause us to have to bring companies in. The complexity of managing the economics of a bundled offer, of balancing the priorities of different shareholder bases in a product development context with limited product development resources all creates such consternation that you may have no choice but to have to put the two back together.

What this unusual structure appears to provide to Sprint is a financing vehicle that mimics the operating characteristics of its businesses: largely stand alone for now, albeit with important linkages, with the explicit intent of integrating more completely in the future.

Systems

Allied's compensation and control mechanisms appear well aligned with the demands of the different dimensions of diversification manifested in the firm's portfolio. Specifically, the compensation of managers of those divisions that are operationally linked is tied to the joint performance of the relevant divisions. In particular, bonus structures have been used to support corporate initiatives for cooperation between divisions. Bob Johnson:

Twenty percent of everybody's performance [operating unit managers within Aerospace] is based upon how aerospace did in total. Thirty percent is based upon how well their particular product integration efforts went, as distinct from aerospace's performance, which relied on the sales and service organization. And 50% is on the individual metrics of the product businesses.

In contrast, compensation structures for operating units with no material linkages with other operating units contains no interunit components. Fred Poses:

If you run Polymers, it's Polymer's performance. If you run Carpet Fibers within Polymers, it's Carpet Fibers's performance. In the bonus, line of sight is important. So I don't want you running Polymers and someone else running Specialty Chemicals, and you two having to look at each other and say "You're [hurting] me," or "You're helping me." It should be everything within your control on the bonus.

This is particularly significant, for despite the fact that there are some important linkages between the divisions within Specialty Chemicals, there is no group level compensation for division managers within Specialty Chemicals; only Cappeline, the group vice president, is rewarded for the performance of Specialty Chemicals as a group. Only within Aerospace, where the linkages are very concrete, does group level compensation enter in to the picture. For the most part, the organization's divisions are rewarded for their own operating performances. Don Redlinger, EVP of Human Resources, explains the company's philosophy:

Some business leaders often want to make bonus formulas much more complex, because they run very complicated, large, global organizations. They want to give 2% of everybody's bonus for something.

Our basic theory is that we want no more than three, maybe four, economic measures. We want them to be heavily weighted, and we want them to have a significant impact on their lives. To the extent that you start introducing all of the subplots, you end up with a bonus system that's meaningless...[w]e don't want to try to make a bonus system an intricate wiring diagram, or it will have little utility. It doesn't communicate anything if it's complex.

Additionally, the bonus system that Allied puts in place is strongly adhered to, and subjective evaluations come into play only rarely. Fred Poses:

You don't want to override it [the bonus and compensation plan] because if you're going to override it, then tell me what the real system is and we might as well use that system.

In other words, Allied appears to employ a strongly formulaic bonus compensation plan this is tightly tied to measurable outputs and that explicitly rewards cooperation and the exploitation of linkages only when they are concrete and have a clear and immediate impact on the performance of business units.

Sprint, in contrast, appears to have a much more fluid and interconnected bonus compensation plan. The Management Incentive Plan (MIP) is an annual cash payment to executives that can reach 100% of salary. The structure of the MIP is determined annually, and is linked to a series of operational and financial targets for each division in the company. In other words, every divisional manager has at least some bonus compensation directly dependent on the operational and financial success of every other division, even if there are no material linkages between those divisions at present. For 1998 (top figure in each cell) and 1999 (bottom figure in each cell) the percentage allocations of the MIP are given in Table 1 (below).

The purpose of this elaborate grid of interdependent incentives, especially the "cross selling" column, is to motivate and reward executives for developing effective bundling initiatives. Ben Watson, Senior Vice President of Human Resources, explains:

When this was designed, the way in which the impact of cross selling was going to get picked up in their results of operation had not been worked out. If that can be done, then this particular objective [cross selling] and the bonus associated with it will go away.

Since we can't yet pick up the benefit of cross selling efforts in hard dollars, it's done by units, rather than, say, the profitability of customers. We constructed the system by putting it to [the relevant executives] and said, "you guys work out a plan." So they did that, and came back to Ron [LeMay, COO] with a plan.

The result might be seen to be a complex system, but it follows the interest, skill, and level of detail of the chairman. Bill [Esry, Chairman] is on comp committees at other corporations, and he appreciates that where you put the compensation is where you incent the actions.

Table 1: Sprint's Management Incentive Plan Allocation: 1998-1999

	CSG	LTD	NIS	PCS	Intl	Cross selling	TOTAL
CEO, COO, & Corporate EVPs	40%	30%	10%	15%	5%	0%	100%
	30%	25%	15%	15%	5%	10%	100%
CSG	60%	15%	10%	10%	5%	0%	100%
	50%	5%	20%	10%	5%	10%	100%
LTD	15%	60%	10%	10%	5%	0%	100%
	10%	55%	15%	10%	0%	10%	100%
NIS	15%	15%	60%	5%	5%	0%	100%
	10%	10%	60%	10%	0%	10%	100%
PCS	0%	0%	0%	60%	0%	40%	100%
	10%	5%	10%	65%	0%	10%	100%
Intl	15%	15%	5%	5%	50%	10%	100%
	10%	5%	10%	5%	60%	10%	100%

CSG: Consumer and Business Services Group, Sprint's long distance services division

LTD: Local Telephone Division, Sprint's local telephony services group

NIS: Network Integration Services, an infrastructure division building broadband, national, local loop services

PCS: Personal Communications Services, Sprint's digital wireless services provider

Intl: Manages Sprint's investments in non-US based telecommunications services providers

Shaded cells show the percentage of the MIP paid to the executive of a given division that is dependent upon the performance of that division.

It would appear, therefore, that this MIP is an attempt on the part of the corporate office to drive management attention and efforts in directions that cannot be immediately measured in terms of the performance of the individual operating divisions. That is, the relationships between, for example, cross selling efforts and the financial performance of individual divisions or the corporation as a whole are sufficiently unclear that an intermediate measure is required in order to reward and provide incentives for such initiatives. This demonstrates a willingness to compensate managerial action on the basis of something other than clearly quantifiable, financial and objective measures.

Beyond this function, three features of this MIP system merit further discussion. First, there is an explicit and significant reward tied to the ability of each division to further the interests of the others. A corollary of this is that comparatively little of the bonus paid to an executive — no more than 65% — is tied to the performance of the division over which he or she has the most direct control. This serves to create a material incentive for each executive to contribute where possible to the success of other

divisions, even when the nature of effective contribution cannot be specified *ex ante*.

Second, the structure of the MIP can change materially from year to year. Note the percentage of PCS's MIP that is dependent upon successful cross selling: in 1998 it was 40%; in 1999 it had fallen to 10%.

Third, the structure of the incentives is highly varied across divisions. For example, LDD has 10% of the MIP tied to PCS's performance, but 20% to the success of NIS. Furthermore, the relationships are not symmetrical between divisions: ten percent of LTD's MIP is tied to LDD, but only 5% of LDD's MIP is tied to LTD.

Finally, Sprint's control systems appear to be highly flexible in order to cope with uncertainty in operational execution. For example, Sprint's Integrated On-demand Network (ION) initiative is a network deployment strategy involving a great deal of new and in some cases unproven technology, and launches into entirely new markets.

Consequently, says Len Lauer, President of Consumer Services Group (CSG):

...we do a re-spend on the business case for ION every six months to make sure that everyone is happy with their commitments. For example, a lot the automation in the sales process has been gutted from the latest iteration of ION, and we had committed to 100,000 sales per quarter. We can't do that if it's all manual, so we are going to look at changing the sales forecasts.

As a result, the performance commitments are very fluid, and we can even be too fluid: you can spend so much time with people recommitting and redoing the business cases that it gets futile. Making sure that we don't get carried away with that has to come from Ron [LeMay, COO].

In other words, forcing compensation to rest solely on the mechanical relationships between negotiated targets and performance would result in endless renegotiations. Consequently, it would seem that an important role for the corporate office at Sprint is to be sufficiently able and trusted to evaluate divisional and executive performance subjectively and allocate reward accordingly.

Processes

Exploiting Synergies

Exploiting horizontal linkages between divisions at Allied is something that has been motivated by top down pressure, but designed and implemented through the deep involvement of the operating managers affected. Poses explains:

We got the leadership of aerospace together and, over the first three months of this year [1999], we redesigned and changed the organizational structure of aerospace dramatically. We involved 150 of the top people to help us design the organization. We took a close look at three designs: a design that said, “Make what we have better,” “make it a more industry oriented organization,” and then we had a more product oriented organization, which is our traditional approach. We set three teams to work, one on each model, to find out how each model could be made to work. Then we shared. Ultimately we can’t vote by committee. So on one fateful Friday afternoon I went up in front of them and I said, “This is where we’re going to go.” And then we instituted it.

These comments illustrate a corporate office that recognized the need for better interdivisional cooperation, yet took a leadership role only in facilitating a process by which the affected operating managers determine how best to capture the benefits of common effort.

Sprint, however, provides evidence of a very different corporate role. Following the articulation of the One Sprint strategy, product design people in different divisions set to work to develop specific bundled product offerings. From within the PCS group came the notion of Block Of Time Light (BOTL), described by Tom Weigman, EVP One Sprint Consumer (above). For the CSG group, this constituted an invaluable opportunity to increase their market share, which had been unchanged for a number of years. There was strong resistance from the most senior executives in PCS, however, and it took the intervention of corporate level executives to overcome that. Weigman elaborates:

The idea [for BOTL] came from a product/pricing technologist in PCS. The marketing people in CSG saw the value immediately. CSG realizes that in order to be successful in the face of much larger competitors, it needs to leverage everything it can. The tremendous market penetration potential that PCS has is just the kind of new weapon they need to increase their presence in what is already a saturated and finely tilled market.

The folks in PCS weren’t nearly so enthusiastic, though. For example, one of the reasons that BOTL works for CSG is that it gives them better retention rates, and lowers their churn: customers that buy a more complete suite of products tend not to drop any one of them nearly as quickly as people that buy their service piece-meal.

PCS looked at that same CSG benefit and concluded that it would hurt them: their churn is at 2%, CSG’s churn is at 6%. So they concluded that if BOTL lowers CSG’s churn to 4%, it’ll raise their churn to 4%.

That is just broken calculus, and we sought to demonstrate that. The most recent objection from PCS is that they’ll get no churn benefit, and that somehow this is a reason not to do it. It’s now [as of August 1999] gotten so late in the year that PCS already has their 4th quarter lined up, and they don’t want to make the kinds

of changes that will jeopardize that plan. Al [Kurtze] and I try to keep the pressure on, and Sukawaty [President of PCS] and Lauer [President of CSG] have now reached an agreement: they're going to pilot a BOTL product in a certain portion of the country.

Not only was Weigman deeply involved in the analysis of the product plans and the debate between PCS and CSG, but so was Al Kurtze, EVP One Sprint Architecture. He describes his role in building momentum for the BOTL project:

You have to be blatant. You can't let people doe-see-doe around things, and an important part of making that happen is involving top management. When we have meetings about these issues, I make sure that LeMay calls them.

Even then, people try to avoid issues rather than dealing with them. PCS tried that with BOTL. They invoked the "fourth quarter defense:" oh no, we can't do anything in the fourth quarter.

But I looked at them and said "hey, I've been there, you can't pull that one on me. Here's a way to do it, so if you want to do it at all, here's a way that will work. Tell me you don't want to, but don't tell me you can't, because I know you can."

Kurtze's comment that he's "been there," with reference to PCS's invocation of "the fourth quarter defense," refers to Kurtze's operational background: prior to taking on the position of One Sprint Architecture, he was the COO of PCS. Weigman, too, has "been there," having been served as the head of CSG prior to Lauer's arrival. It is reasonable to surmise that their histories as successful operating managers within Sprint lent enormous weight to their points of view concerning the importance and feasibility of developing and launching BOTL.

Developing and Implementing Strategy

At Allied, strategic planning and implementation is driven largely by the divisions in a "bottom-up" manner. The corporate office works with the divisions in a financial planning role, but the nuts and bolts of strategy, including much of Allied's mergers and acquisitions activity, is a function of division-level, rather than corporate-level, initiative.

Bob Johnson explains:

The strategic planning process starts at the business unit level, so that's where acquisition opportunities are identified. For example, the Grimes acquisition would have come up on a screen, and we have an active, either by month or quarter, acquisition pipeline review. So that would have come up as a nice niche fit that had synergies and financial gain. The due diligence would have begun, involving the corporate folks from legal and M&A, and some product or business experts. Larry [Bossidy] would be involved through final approvals.

Poses expresses similar sentiments:

With respect to the specific acquisitions, it would be quite rare for the corporate office to take the lead in identifying targets and evaluating their suitability. We may help them do the deal, but most acquisitions are what the businesses want to do, and are extensions of the strategies they are implementing in their respective markets.

The role of the corporate office in reviewing and approving investment initiatives is illustrated by the company's recent effort to identify and promote 100 highest growth opportunities across the company. Poses explains the rationale behind the program:

I think we concluded that we were sprinkling too much; we didn't kill projects. So there although there are people working on hundreds of projects, the current thrust is to force a review of those top 100 projects to make sure that they're getting the attention they deserve.

Now, I wouldn't want to tell a division manager which project to work on. Let's say there are ten in a given division. I don't want to be the guy who says which project to work on. I want him to have a process for the way he'll work on the best projects for his business. I just want to force a discipline so that he doesn't work on too many, and that he knows I have an expectation that he make progress on what's he's committed to.

It would appear, then, that Allied operates a traditional strategy development and implementation process. Managers close to the operational requirements of the individual businesses develop a variety of strategic initiatives. These initiatives are vetted and approved by corporate management, and then implemented and monitored at the divisional level (Bower 1970).

At Sprint, too, there appears to be a significant level of divisional autonomy with respect to developing strategic initiatives that are subject only to high-level corporate approval. For example, the core brand at Sprint had since 1995 been "Sprint Sense," which established "10¢ a minute" as the benchmark for domestic long distance rates in the United States. Sprint signed Candace Bergen, then the star of the once very popular television situation comedy "Murphy Brown," who rapidly became the most valuable spokesperson in American marketing.

With the cancellation of Bergen's show, and the erosion of the novelty of the ten-cent rate, Len Lauer reports that marketing people within CSG felt that the Sprint Sense brand had become stale. The division needed something new. Lauer explains:

Nickel Nights came about around 3 months ago when Tim Kelly our VP of

marketing was deciding that the Sprint Sense platform that we had lived off of for about four years was getting tired. Focus groups, the competitive imitation, etc. had eroded our differentiation. So Tim got the go ahead to begin developing a replacement for our core product. The team did that all within CSG. About a month before it was finished, I told Ron we had this work going on but no details. I gave him the highlights in a three minute voice mail and said if he wanted more I'd be glad to take him through it. He got back to me in about a half hour, said come see me, I was on his schedule two days later, Tim and I spent 30 minutes with him and that was it.

The only constraints imposed on CSG in the development and approval process with respect to re-launching the identity of the company and cutting the price of its core product in half are the rate of return hurdles established by the finance function. Gene Betts, EVP Finance, explains:

Sprint and most major competitors are EVA [economic value added] companies. We all want market share, but only at acceptable EVA levels, so we put EVA and other financial targets in place. The divisions understand the target, and it's up to them to decide when and how to act. And if they like 5¢/minute and \$4/month, then that's the new pricing plan. It's not up to us to say, "Hey, wait a minute. We think you ought to change that nickel nights to 4.9 cent nights."

Therefore, even in a division like CSG that is actively pursuing extensive synergies with both LTD and PCS, there remains considerable operational autonomy.

At the same time, whatever the level of autonomy enjoyed by Sprint's divisions, the corporate office assumes a strongly directive role when it feels that this is necessary. For example, the PCS division, despite its emerging linkages with CSG and LDD, is still largely independent of the other divisions within Sprint. This is emphasized by the strongly PCS-focused compensation structures that are in place for PCS managers and executives.

However, technological advancements made it possible in late 1999 to begin offering wireless internet access; that is, using the PCS digital network, consumers are now able to log on to the internet using their PCS handset. The small size, LCD display, and special purpose electronics required for a handset to serve as an internet access device means that the established internet browser software is not appropriate for wireless access; in other words, there is no Netscape Navigator or Microsoft Explorer for a phone. Consequently, the necessary software is still very much in the hands of the network service provider, in this case, Sprint PCS. Therefore, part of the product design process for the Sprint PCS

wireless access service offering involved making a choice with respect to what kinds of flexibility to give consumers: should customers be able to customize their access software by, for example, choosing their homepage or other settings, or should these features be hard wired by Sprint?

Ted Schell explains the issue and how the decision was ultimately made:

PCS still was designing the wireless internet approach, and their notion was that we were not going to have a preferential portal strategy, but rather an open strategy where customers could set their own “start” pages, where they could easily go to what they wanted from where they wanted. We were going to go to market totally open, providing the customer total flexibility to reset his start page, and we were not going to use our ability to control the presentation layers to highlight preferred sites, etc.

Our [corporate strategy’s] response was that ownership of the network in the wireless world offers the carrier a unique opportunity to impose itself between the customer and the content, and that by controlling the presentation layer, the initial interface establishes a uniform environment for customers, a common platform for all our products as they emerge – narrowband, broadband, wireline, wireless – and thereby establishes our ability not only to integrate our offerings across our products, but also to aggregate “eyeballs” and capture economies of scale. So to give that all away because of a “passion” for openness would be a real mistake.

Ultimately, corporate’s view prevailed and Sprint’s wireless internet home page was, as of late 1999, a hard-wired feature of their service. Therefore, PCS appears to be operating with substantial operational autonomy, and its management is motivated accordingly, but the division must nevertheless work within what appears to be a form of “strategic boundary” imposed by corporate executives. This strategic boundary is born not so much of differences in opinion with respect to the future of PCS *qua* PCS, but with respect to the impact of PCS’s decisions on the larger corporation.

Generation of Hypotheses and Theory Building

Based on the findings reported in the previous section, it is possible to generate a series of hypotheses that explain why there appear to be material differences in the administrative structures, systems, and processes of Allied and Sprint. These hypotheses collectively form the foundation of an administrative theory of real options based diversification.

Flexible Strategy, Flexible Structure

Whereas Allied employs a rigid group structure and highly formulaic compensation scheme, Sprint avoids the classic group structure and uses a much more subjectively-based and frequently changing compensation system. Additionally, the use of tracking stocks by Sprint seems to reflect a need to recognize the individual needs of certain divisions without foregoing the corporate-level control needed to integrate these divisions in the future.

These differences between Allied and Sprint are hypothesized to be a function of Sprint's more dynamic strategy with respect to interdivisional linkages. Sprint, as a real options diversifier, must be able to reconfigure its interdivisional linkages quickly and frequently compared to Allied. Consequently, in keeping with the well established principle that "strategy follows structure," we can hypothesize that a "flexible strategy," that is, one based emerging synergies between divisions, requires a similarly flexible structure.

At Sprint, this takes the form of having all major divisions reporting directly to the COO, with no group executives acting as span-breakers between the operating units and the corporate office. Such span-breaking roles would serve to cut off, or at least constrain, lines of communication between operating divisions that might be potentially linked. Since the nature and importance of any bi-lateral, interdivisional relationship is very difficult to predict, Sprint avoids the self-imposed constraints of the group structure.

In contrast, Allied is a growth diversifier, competing in a set of industries where new linkages are rare or slow to emerge. Consequently, this company can take advantage of the efficiencies associated with institutionalizing the linkages between divisions within a group structure. This allows Allied to optimize its administrative approaches both within and between groups, in keeping with established prescriptions for diversified firms (Prahalad and Doz 1987).

Compensation systems, too, reflect this need for flexibility. Allied has formula-driven and comparatively straightforward bonus compensation plans. Such systems are appropriate for the needs of a firm where the opportunities for managers to contribute to interdivisional efforts are specifiable, limited in nature, and stable. Sprint, however, has a

system that is much subtler, far more reliant on subjective evaluations of managerial performance, and subject to much greater year-on-year changes. This seems suited to Sprint's need to realign managerial effort emerging opportunities for interdivisional cooperation across Sprint's portfolio of telecommunications assets.

The first hypothesis is therefore that real options diversifiers require flexible structures, and that flexible structures are materially different from those adopted by growth based diversifiers. Specifically, flexible structures facilitate the reconfiguration of interdivisional linkages by avoiding the institutionalization of any specific interdivisional linkage. Additionally, flexible structures require compensation plans that can change frequently, explicitly reward the pursuit of emerging synergies and rely on subjective evaluations of divisional managers' performances rather than economic performance versus budgets. Finally, there appears to be a place in flexible structures for making bonus compensation dependent upon contributions to the performance of other divisions even when there are no current or expected synergies. This suggests that a flexible structure encourages search activity, rather than merely incenting the pursuit of previously identified synergies.

Since the existence of a valuable real option within a portfolio depends upon the ability to reconfigure divisional relationships, flexible structures can be seen at a theoretical level as the means by which firms *create* real options in their portfolios.

Active Corporate Center

The need for an active corporate center in the capture of synergies is well documented and an established premise of corporate contingency theory (Vancil 1978; Hill 1994). The need for corporate executives or the CEO to intervene in order to ensure that valuable synergies do not go wasted has also been applied explicitly to the convergence arena (Eisenmann and Bower 1999). The argument essentially is that risk-averse divisional managers lack the career security of corporate-level executives, as well as the access to internal and external information needed to drive synergy initiatives forward.

Consequently, it is not surprising to see some level of corporate involvement in the exploitation of synergies at both Allied and Sprint. However, the degree and quality of

this involvement seems quite different between the two firms. At Allied corporate managers were catalysts for integration, working to identify and facilitate opportunities for interdivisional cooperation after years of perceived suboptimal performance made the need for closer cooperation apparent to all. The specifics of interdivisional effort were designed by the divisional managers directly affected.

At Sprint, the development of product bundling initiatives required significant corporate level involvement in overcoming divisional resistance. This involvement included not merely proselytizing about the advantages of cooperation or facilitating interdivisional meetings. It included concrete, specific recommendations regarding when and how product bundles might be developed and launched.

This kind of corporate level intervention would be impossible at Allied, for the corporate executives of the company do not have the operating backgrounds or up-to-date technological knowledge necessary to specify, for example, when and how specific Aerospace divisions might develop new propulsion or landing gear systems. Sprint's corporate executives, however, are taken from the ranks of recent operating managers, and so they are well positioned to provide advice on the economic characteristics and implementation details of bundled telecommunications services. Consequently, Sprint was able to move quickly in order to combine the product offerings of CSG and LTD, and CSG and PCS, within months of initiating these efforts.

This suggests that in a real option diversifier, there is potentially a need to move quickly in order to "exercise" a specific real option while it is still "in the money." Delays in implementation reduce the value of the real option as competitors move in to new market niches or advances in technology render given product or service offerings obsolete. Therefore, it is hypothesized that in a real options diversifier the corporate office must be able to intervene more quickly and more directly in order to capture new opportunities for interdivisional synergies than one observers in a growth diversifier. It is this type of intervention that enables real options diversifiers to *exercise* their real options.

A second possible difference in the role of the corporate office between Allied and Sprint concerns the nature of the divisional autonomy granted to largely stand alone

divisions. In dealing with essentially unrelated divisions or groups, the corporate office at Allied operates in a classic “review and approve” approach. Senior management does not guide strategy through the detailed revision of individual strategic initiatives, but through the articulation of broad strategic goals. Consequently, groups and unrelated divisions enjoy considerable strategic freedom; it is only when divisions have material linkages to other divisions that divisional strategic latitude is restricted.

At Sprint, however, the corporate office was willing to constrain the decision making of the PCS division with respect to that division’s wireless web offering, even in the absence of any specific opportunities for synergies either current or expected. This suggests a type of corporate office involvement that goes beyond merely “more active” to an entirely different type of corporate office intervention, one motivated by a desire to *preserve* the value of the real options in their portfolios.

Such “preserving” intervention is required because in a real option diversifier, synergies are expected to emerge between currently unrelated divisions of the firm, and so it is most likely the presence of the currently unrelated division that creates option value in the option diversifier’s portfolio. Therefore, the value of an option on synergies depends upon the ability of the corporation to integrate currently unrelated divisions at some point in the future. It is possible that this integration requires that separate business units remain operationally compatible with respect to such elements as information technology infrastructure, distribution mechanisms, product technology platforms, and primary customer bases — even in the absence of any meaningful actual integration. This in turn requires that the corporate office constrain divisional activities.

At the same time, these operational constraints must not obligate the corporation to integrate. It is flexibility not only with respect to the timing of integration but also with respect to whether or not to integrate that makes the real option on future synergies a true real option rather than merely delayed integration. Should a corporation decide to sell rather than exercise a real option, the business that was originally acquired must still be competitive as a going concern and fully separable from the rest of the corporation.

Therefore, the hypothesis advanced here is that real option diversifiers must balance the competing claims of: (i) allowing currently unlinked businesses to pursue their own

individual best interests; (ii) preserving enough interdivisional compatibility for future integration to remain possible; and (iii) maintaining the separability and viability of the appropriate divisions. This serves to preserve real option value, but results in the need to manage an ongoing tension between divisional autonomy and operating within strategic constraints. This tension is absent from growth diversifiers, and goes beyond the the role of the corporate office in exploiting currently available synergies as limned by corporate contingency theory.

Similar Synergies

Finally, as an observation about the nature of the real options within Sprint, note that the options on integration Sprint holds appear to be all of a kind. That is, they all tend to focus on classically horizontally related, or scope-driven initiatives such as combined product development or shared distribution channels. There do not appear to be any options on vertical integration embedded in Sprint's portfolio.

This is not to say that options on vertical integration might not be valuable. It does suggest a hypothesis for successful option diversifiers, however, and that is that the ability to identify and capture synergies of a given type is an organizational capability that improves with repetition, if not routinization, even if only at a high level (Nelson and Winter 1982). Consequently, real options diversifiers that take real options on linkages that are similar both in kind and to those that the firm has already successfully exercise are argued to be more successful than those that mix the nature of the options they acquire through their diversification initiatives.

The hypothesis is therefore that successful real options based diversification will be a related to taking real options on synergies that are similar to those that have already been successfully exploited.

Conclusion

This paper was an attempt to build an administrative theory of real option based diversification out of the differences between two putative categories of diversified firm: real options based and growth based diversifiers. Sprint, an alleged option based diversifier, was compared with Allied, an alleged growth based diversifier. This section

summarizes the hypotheses, suggests directions for further research, and offers some concluding remarks.

Summary of Hypotheses

Significant and meaningful differences were observed in the administrative practices between the two firms, despite their similar performance and diversification profiles. The hypotheses developed to explain why these differences were observed can be understood in terms of the need of a real options diversifier to *create* real options, *preserve* their value in the face of uncertainty, and *exercise* these options once they are perceived to be in the money.

Real options based diversification can build new levels of strategy flexibility. However, a “flexible strategy” requires a “flexible structure” if it is to be implemented successfully. Therefore, in order to create value through real options diversification firms must not only diversify in the appropriate way, but also adopt the appropriate structures. Therefore, *creating* real option requires the appropriate fit between diversification strategy and administrative structure. This amounts to a flexible reporting structure and compensation systems that reward the relevant search behavior on the part of divisional managers.

Preserving the value of any real options within a diversified portfolio can require significant departures from the prescriptions of established contingency theory. In particular, largely stand alone, or unrelated, divisions in real options diversifiers are subject to significant strategic constraints not observed in growth diversifiers. These constraints preserve the value of the real options on future synergies that they represent.

Exercising real options can require behavior on the part of corporate executives that goes beyond established practice. Specifically, it requires a corporate office that is active in the identification of opportunities for synergies, and provides detailed input to divisional management. Additionally, compensation structures must reward interdivisional cooperation, and in turbulent environments this can require compensation systems that rely more on subjective performance evaluations than on objective *ex ante* budgets. Finally, the probability of successfully exercising real option synergies is hypothesized to increase when the synergies on which a diversified firm has real options

are similar to those it has already exercised.

What has emerged from this field work is a framework of administrative structures and managerial practices that is tailored specifically to the requirements of creating value by acquiring real options on future synergies through diversification. The linkages between the observations in the field, the hypotheses explaining administrative behavior, and the theoretical framework of real options diversification are summarized in Table 2.

Table 2: Linkages between Field Work, Hypotheses, and Theoretical Constructs

Relevant Characteristics of a Real Option Diversifier	Hypotheses	Theoretical Construct
No group structure	Flexible strategies require flexible structures	Creating Real Options
Compensation system rewards cooperation when no synergies are apparent	Rewarding search behavior keeps divisional management open to new opportunities for cooperation	
Divisions enjoy significant operating autonomy	Future integration must not be a foregone conclusion	Preserving Real Option Value
Divisions function within corporate-imposed strategic constraints	The ability to integrate in the future depends upon maintaining “strategic compatibility”	
Compensation systems change frequently and dramatically	Changing interdivisional relationships requires flexible compensation systems	Exercising Real Options
Corporate intervention in the exploitation of synergies is significant and implementation oriented	Synergies must be exploited quickly in order to realize their full value; this requires corporate level involvement to overcome divisional resistance	
Emerging synergies are similar to existing synergies	Companies can develop a competency at capturing a particular type of synergy	

Directions for Further Research

Theory Testing

The next and most obvious step is to test the hypotheses generated by this fieldwork. Executing this research will require in particular a more rigorous and thorough operationalization of the concepts of “real option diversifier,” “growth diversifier,” and the structure of real options on future synergies. With this in place, the ultimate

usefulness of the theoretical administrative constructs of creating, preserving, and exercising real options on future synergies can be determined.

Context Dependence

Distinguishing between real options and growth diversifiers is dependent to a large degree upon the industrial sectors within which a company's units compete. For example, diversified firms in the telecommunications sector are argued to have more and more valuable real options than diversified firms competing in the aerospace sector due to the degree to which uncertainty and the forces of convergence affect each of them.

More objective and formal methods of assessing the impact of elements such as uncertainty and first-mover advantages on specific industries is required in order to determine if the nature of the context dependence suggested here is true. Especially valuable would be a set of concepts or a measurement instrument that would allow researchers to track changes in the value of real options within sectors over time. This would allow managers of diversified companies to assess the degree to which real options are becoming more or less valuable as a mechanism for creating value, and by implication, the importance of adopting the organizational characteristics hypothesized to be associated with this type of corporate strategy.

Valuing Real Options

To this point, the concept of real options has been invoked primarily as a metaphor, as a way of thinking about the value of diversification in particular market contexts. However, just as the more mainstream real options literature has successfully applied the machinery used to value financial options to specific capital investment projects, it is perhaps possible to use this same approach to value the real options embedded in certain diversification initiatives.

Specifically, financial option theory states that the value of an option is a function of five parameters: the value of the underlying asset; the time to exercise; the opportunity cost of money; the strike price; and volatility in the value of the underlying asset (Brealey and Myers 1991). Each of these elements has an analog in the real options framework proposed here. The value of the underlying asset is the present value of future synergies. The time to exercise approaches infinity: to the extent that operating divisions in hybrid

diversifiers suffer no operating penalty, there is no material “cost of carry” attendant to delaying the integration decision. The opportunity cost of money is the risk-free rate of return or the next-best use of capital for the corporation. The strike price is the cost of integration in the interests of capturing synergies. And the volatility in the present value of future synergies is a function of the uncertainty and volatility of the market, technological, and regulatory factors that create new opportunities for synergy.

The empirical challenge is to operationalize each of these dimensions in such a way that managers can begin to put a dollar value on specific real options. This information is of potentially enormous value, for it would provide a rigorous framework for thinking about high-commitment decisions involving when and how to exploit synergies and also in valuing potential acquisition targets. It would provide a framework for understanding acquisition premiums that go beyond the sum of the present value of expected future cash flows and any governance or scope economies identifiable at the time of purchase. Finally, given the high cost of integration efforts within organizations, it would provide a useful tool for determining when specific real options are in the money, and so when it is worth incurring the cost of exercising them.

Concluding Remarks

Established corporate contingency theory suggests an essentially static view of diversified firms; that is, the nature of the linkages between divisions are seen to be essentially exogenous to the firm and unchanging. However, uncertainty surrounding the forces of convergence suggests that firms must go beyond this “strategy taker” paradigm and begin both to position themselves to respond quickly to new opportunity and create for themselves possibilities for shaping the competitive landscape.

These imperatives imply that strategic flexibility is increasingly important as a dimension of competitive advantage. This paper has argued that strategic flexibility can be increased by taking real options on future synergies through diversification. Consequently, what is presented here is a new dynamic framework for thinking about corporate strategy and the sources of corporate value added. At the same time, by building on the concepts and methodologies of established contingency theory, this paper has suggested the administrative, rather than merely the portfolio, implications of taking

these ideas seriously.

In conclusion, the nascent theory of real options and its contribution to corporate-level strategic flexibility promises a rich research agenda with potentially significant practical implications. This paper will have served its purpose if the theoretical framework and empirical findings reported here have justified developing and exploring these ideas.

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