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THE FUNCTIONS OF THE HQ UNIT IN THE MULTIBUSINESS FIRM

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The basic functions of the corporate headquarters (HQ) multibusiness firms are both entrepreneurial (value-creation) and administrative (loss prevention). The development and implementation of these HQ functions reflect the industries in which the firms operate. Historically, the ability of the headquarters to carry out these functions has determined both the successful paths to growth for a multibusiness enterprise and the limits to that growth.

The functions of the headquarter (HQ) unit in the multibusiness firm is indeed a basic question for the understanding of the operations of modern business enterprise. As pointed out by the editors of this Special Issue, the diversified corporation has become a dominant form of business organization. They rightly stated in their organizing invitation that: 'It is no exaggeration to argue that the economies of the industrial world now depend crucially on the performance of large multibusiness, diversified companies.' That statement is as true for the past as it is for today. As in the past, the decisions made by the senior executives at their headquarters have been absolutely critical to the performance of such multinational and multiproduct companies. For those corporate executives not only monitor the current performance of their several businesses but also determine and implement investment in facilities and personnel required for future production and distribution in the different product and geographical markets they serve. On such decisions depend the competitive success or

failure of their enterprises and the national industries in which they operate.

I begin this analysis of the functions of the HQ unit by reviewing the evolution of the multibusiness firm and the administrative structures created to operate it. I then examine how corporate headquarters carry out its functions, focusing largely on its entrepreneurial and administrative activities. Throughout this analysis I stress that industries have different characteristics, reflecting different technologies of production and different market demands. So I conclude by examining how in implementing these functions senior executives at HQ units came to understand the limits to growth and the boundaries of the firm and how, in turn, the functions and boundaries were shaped by the different characteristics of the industries in which the firms operated.

THE HISTORICAL EVOLUTION OF THE MULTIBUSINESS FIRM

The modern business enterprise with its hierarchy of lower, middle and top management appeared in the United States and Europe suddenly in the 1850s to operate the new forms of transportation

Key words: corporate headquarters, multibusiness firms, diversification, conglomerates, organization capabilities

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and communication. By the 1880s railroad and telegraph companies had created organizational structures and internal control systems (including the adoption of the M-Form for multiregional systems) as complex as those created a half century later in industry and commerce. At the same time the unprecedented volume, speed, and above all, regularity of the flow of goods and messages through the economy made possible by the railroad and the telegraph, revolutionized the processes of production and distribution. In distribution the modern mass retailer appeared—the department store, the mail-order house and the chain store. In production, the technological potential created by the new flows precipitated a wave of technological innovations that swept across Western Europe and the United States—a phenomenon that historians have properly termed the Second Industrial Revolution.

The new technologies transformed the processing of tobacco, grains, whiskey, beer, sugar, vegetable oil and other foods. They revolutionized the refining of oil and the making of metals and materials—steel, nonferrous metals, particularly copper and aluminum, glass, abrasives and other materials. They created brand new chemical industries that produced man-made dyes, fibers, fertilizers and medicines. They brought into being a wide range of machinery—light machines for sewing, agriculture and office uses; heavier standardized machinery such as elevators, refrigerating equipment, and greatly improved printing presses, pumps and boilers. Most revolutionary of all were the new machines to mass produce and distribute electric power. That new energy source not only transformed the mechanical process of production within factories and created new forms of urban transportation, but it revolutionized the processing of many metals and chemicals.

These industries that began to drive economic growth and transformation late in the 19th century had two basic characteristics that differentiated them from existing labor-intensive industries such as textiles, apparel, furniture, paper, lumber, leather, shipbuilding, and mining. So did the transforming industries of later decades—those based on the internal combustion engine before World War II and those based on electronics, particularly the computer, after that war. First, all the processes of production were far more capital-intensive than in the older

industries. That is, the ratio of capital to labor per unit of output was much higher. Secondly, in these industries large plants had significant cost advantages over smaller ones in producing a single line of products. Up to a minimum efficient size (based on the nature of technology and the size of the market) the cost per unit dropped more quickly as the volume of output increased than was the case in the labor-intensive industries. Besides such economies of scale large works often utilized economies of scope—those resulting from making different products in a set of facilities using the same raw and semi-finished materials and the same intermediate processes of production.

In all these capital-intensive industries, however, the new large plants were able to maintain the cost advantages of scale and scope only if the entrepreneurs who built them made two other sets of investments. They had to create a national and then international marketing and distributing organization. And they had to recruit lower and middle managers to coordinate the flow of products through the processes of production and distribution, and top managers to coordinate and monitor current operations and to plan and allocate resources for future activities. The small number of 'first movers', those that made the three-pronged set of investments in manufacturing, marketing and management essential to exploit fully the economies of scale and scope, quickly dominated their industries and usually continued to do so for decades. Challengers did appear, but they were only a few.

The three-pronged investment by the first movers created the modern industrial enterprise administered through functional departments whose heads, with the president, formed the corporate headquarters. (That is, new firms became administered through the U-Form of organization.) That investment also transformed the structure of industries. The new capital-intensive industries were quickly dominated by a small number of large managerial enterprises which competed for market share and profit in a new oligopolistic manner. Price remained a significant competitive weapon. But these firms competed more forcefully through functional and strategic efficiency; that is, by performing more effectively the different processes of production, distribution, marketing, product development

and the like, and by moving more quickly into expanding markets and out of declining ones. The test of such competition was changing market share. In the new oligopolistic industries market share and profits changed constantly.

Such oligopolistic competition sharpened the product-specific capabilities of workers and managers. Such capabilities, plus retained earnings obtained from the new and profitable capital-intensive technologies became the basis for the continuing growth of these managerial enterprises. Firms did grow by combining with competitors (horizontal combination) or by moving backward to control materials and forward to control outlets (vertical integration), but they did so usually in response to specific situations that varied with time and place. For most firms in these capital-intensive industries the continuing long-term strategy of growth was expansion into new markets—either into new geographical areas, or into related product markets. The move into geographically distant markets was normally based on competitive advantage of organizational capabilities developed from exploiting economies of scale. Moves into related industries rested more on those advantages developed from the exploitation of the economies of scope. Such organizational capabilities honed by oligopolistic competition provided the dynamic for the continuing growth of such firms, of the industries which they dominated, and of the national economies in which they operated.

The extent of this growth into new geographical and related product markets by the 200 largest industrial enterprises in the United States, Britain and Germany from the 1880s to the 1940s is described and documented in my book, *Scale and Scope*. An appendix in that book gives the product lines of these companies (by three digit SIC categories of the U.S. Census) for 1930 and 1948. A follow-up list for 1973 is given in Chandler and Tedlow (1985). Scott (1973) summarized several studies on the continuing diversification into new markets of the largest 100 firms in the United States, Britain, France and Italy between 1950 and 1970. By the 1960s the multibusiness enterprise had become the norm in modern capital-intensive, technologically complex industries.

In the interwar years in the United States, but rarely before 1950 in Europe, senior executives rationalized the management of this multimarket

growth through the adoption of some variations of the M-Form with its corporate headquarters and integrated product or geographical divisions. (In this paper the terms corporate headquarters, corporate office and HQ unit are synonymous.) The M-form came into being when senior managers operating through existing centralized, functionally departmentalized U-Form structures realized that they had neither the time nor the necessary information to coordinate and monitor day-to-day operations, or to devise and implement long-term plans for the several product lines. The administrative overload had become simply too great. At Du Pont, the innovator in 1921 and then in other new multibusiness enterprises, the solution was to establish divisions to administer the production and distribution of their major product lines or geographical regions and a general or corporate headquarters to administer the enterprise as a whole. The divisional offices coordinated production and distribution (and often product development) using the U-form structure. From the start the functions of the new corporate headquarters of these new multimarket business enterprises became and remained that of maintaining the long-term health (usually defined as continued profitability) and growth of their firms.

To implement this role the executives at the new headquarters carried out two closely related functions.¹ One was entrepreneurial or value-creating, that is, to determine strategies to maintain and then to utilize for the long-term the firm's organizational skills, facilities and capital and to allocate resources—capital and product-specific technical and managerial skills—to pursue these strategies. The second was more administrative or loss-preventive. It was to monitor the performance of the operating divisions; to check on the use of the resources allocated; and, when necessary, redefine the product lines of the divisions so as to continue to use effectively the firm's organizational capabilities.

The administrative tasks of monitoring were,

¹ The executives at the corporate headquarters carried out an additional and most essential function, that of handling relations of the enterprise as a whole with legislatures and other governmental bodies concerning taxes, tariffs and regulation. In this paper I concentrate on the two basic functions because they focus on managerial issues arising in matters internal to the firm.

of course, intimately related to the entrepreneurial task of strategic planning and resource allocation. For monitoring provided the essential information about changing technology and markets, and the nature and pace of competition in the different businesses. And it permitted a continuing evaluation of the performance of divisional operating managers. Indeed, management development has long been a critical function of the corporate headquarters. For of all the enterprise's resources, the product-specific and firm-specific managerial skills are the most essential to maintain the capabilities of its existing businesses and to take the enterprise into new geographical and product markets where such capabilities gave it a competitive advantage.

Facilitated by adoption of the M-Form, the size and numbers of multibusiness firms—both multinational and multi-industrial—increased rapidly, particularly after World War II. So too did the variety of markets they entered; and, therefore, the number of divisions they operated. Such growth intensified competition. Until the 1960s, however, world events—the two global wars and the massive global depression of the 1930s—held back the full impact of international and inter-industry competition. In the 1960s the European and Japanese enterprises began to compete with American firms in the United States and abroad, and many more American firms moved overseas. In these same years U.S. enterprises, which had begun to enter into closely related markets during the interwar years, began to expand in this manner more aggressively. For example, by the 1960s, agricultural, mining, industrial, and construction machinery and truck and auto companies had moved into each other's markets, and glass, rubber, and food firms expanded their activities in chemicals. Rapidly growing R&D expenditures intensified such interindustry competition.

Continued growth into new markets encouraged structural change, for like the initial diversification, it resulted in a decision-making overload at both the corporate office and division levels. Senior executives at Du Pont reviewing the company's organizational structure 'saw striking parallels between the company's problems in the 1920s and those of the late 1960s.' (Hounshell and Smith, 1988: 586). The solution at Du Pont and many other companies was to form integrated business units within the divisions that coordi-

nated and controlled a single product or very closely related product lines. In others it was to place the divisions under larger 'group' offices.

But, whatever the names used, by the 1970s most large multibusiness enterprises had three (not just two) levels of autonomous planning and administrative offices. They are referred to in this paper as the business unit, the division and the corporate HQ or office. The first normally operated through functional U-Form structure, while the divisions, like the corporate office, operated through a version of the M-Form structure with its own staff and senior executives responsible for profit, market share, and other measures of performance.²

The corporate office continued to define growth paths and goals for the corporation as a whole and to monitor the performance of the subordinate operating units. In these same years the headquarter's role as a mediator with government agencies and other public bodies increased sharply with new regulatory legislation. By the 1980s, according to the study of corporate office executives of 12 large American manufacturing companies by Gordon Donaldson and Jay Lorsch, several chief executive officers (CEOs) said that they spent 30–40 percent of their time in carrying out such matters. (Donaldson and Lorsch: 1983: 13).

Intensified competition resulting from new players from abroad and from related industries gave many U.S. companies the greatest competitive challenge they had faced since their founding decades earlier. Many U.S. managers responded by reinvesting to improve their competitive capabilities in their own and closely related industries. But others began to grow by moving into industries in which their organizational competencies provided little or no competitive advantage. Because many had had little competition from abroad since World War II—and because they were being told by some academics that management was a generalist skill—many of these executives had come to believe that, if they were successful in their own industry, they could

² In some companies there were five levels—profit centers, business units, divisions, groups and the corporate offices. But in nearly all, profit centers were within business units and were usually related to functional activities, and the group usually remained part of the corporate HQ. In this paper then, I use the term business unit for the lowest level multifunctional office, and division for the highest level office where senior line executives had profit responsibility.

be just as successful in others. For many, as Donaldson and Lorsch (1983) have documented, the goal of this broad based diversification was for many managers long-term growth. Others simply enjoyed empire building. Moreover, their companies were cash-laden precisely because the postwar years of American hegemony had been so prosperous.

So these managers sought to invest their retained earnings in industries that appeared to show a greater profit potential than their own. And they did so even though those industries were only distantly and sometimes unrelated to their companies' core capabilities. They lacked the knowledge of their target industries' operations and they lacked, too, the necessary capabilities to build plants and develop personnel through direct internal investment as they had in the past. So these diversifiers grew by acquisition or, occasionally, merger.

In these same years a new form of multibusiness enterprise appeared, the conglomerate. The conglomerate can be defined as a firm that grew almost wholly by making acquisitions in unrelated industries. Such firms were of two types. One was firms in older sectors of the economy whose capabilities failed to give them a base for growth comparable to those of the large industrial diversifiers. They were utilities and transportation firms such as ITT, Tenneco, Illinois Central Industries, Northwest Industries, Ogden and Greyhound and industrials such as Textron, U.S. Industries, Walter Kidde, Dart Industries and Colt Industries. These included 11 of the 15 conglomerates listed among the top 200 in 1973. A few years later similar firms appeared in Britain including BRT and Hanson Trust. As they diversified, most sold off their original business. The other type was enterprises in 1973 that entrepreneurs created from scratch. Four of the top 15 U.S. conglomerates were such entrepreneurial start-ups—LTV, Litton, Gulf + Western, and Teledyne. Some of these enterprises profited by improving the management and hence the profits of the companies acquired. But others increased the value of their shares through creative, but legal, accounting that recorded on the balance sheets an inflated picture of their assets, revenues, and earnings.

Table 1 compiled by Norman Berg documents the differences in the size and personnel of corporate HQ of conglomerates and those of

diversified majors. The differences reflect the differences in the strategies of diversification. For each the number of general executives was about the same. The difference lay in the size and activities of the corporate staff. Since their unrelated activities offer no synergies, the conglomerates had no need for manufacturing, marketing, purchasing, traffic and research staff. Even in finance and control they employed smaller numbers than did the major diversifiers. Only in public, including government, relations were the numbers much the same.

IMPLEMENTING THE ENTREPRENEURIAL AND ADMINISTRATIVE FUNCTIONS

I have presented this historical review to explain why the multibusiness firm became such a pervasive and powerful institution in modern economies, why the corporate office appeared and how its functions developed. A more precise understanding of these functions and of the mechanisms used to implement them calls for a more detailed analysis based on information from specific enterprises. I rely on Michael Goold and Andrew Campbell's, *Strategies and Styles: The Role of the Centre in Managing Diversified Corporations* (1987) for information on 16 carefully selected British diversified and conglomerate firms. For the U.S. conglomerates I examine the historical experience of International Telephone and Telegraph (ITT) with brief references to other conglomerates. For the U.S. multibusiness firms I review the history of two diversified majors, General Electric (GE) and Du Pont with a brief reference to International Business Machines (IBM). As these data come almost wholly from manufacturing enterprises, the analysis here is essentially the functions of corporate HQ in industrial multibusiness enterprises.

Because the data are rich and the functions carefully categorized in the Goold and Campbell study, I begin with the British companies. In *Strategies and Styles* the two authors describe three major types of management styles used by senior managers at corporate headquarters: Strategic Planning, Strategic Control, and Financial Control. 'The three main styles,' they write, 'lead to different strategies and different results.' (Goold and Campbell, 1987: 87). I would argue that

Table 1. Differences in size and personnel of the offices of diversified majors and conglomerates
Statistical data on companies

Statistical data	1969						Approx. # acquis. 1959-69	1959	
	Sales (million \$)	Fortune rank	Assets (million \$)	Employees (thousands)	Number of divisions	4-Digit SIC#		Sales (million \$)	Fortune rank
Diversified majors:									
Bendix	\$1,468	72	\$980	63.5	53	30	16	\$684	62
Borg-Warner	1,087	108	949	41.6	35	25	3	650	68
Ingersoll-Rand	711	160	690	33.7	27	31	11	162	269
Company 'X'	About 500	-	-	-	-	About 35	n/a	-	-
Average	About 1,000	-	-	-	-	About 30	-	-	-
Company 'Y'									
						About 50	n/a	-	-
Conglomerates:									
Gulf & Western	\$1,564	64	\$2,172	85.0	37	89	45	-	-
Kidde (W.J.)	786	143	775	35.7	55	n/a	74	\$41	-
							(64-69)		
Lear-Siegler	587	186	319	26.6	56	40	50	87	431
Litton	2,177	39	1,580	116.0	70	64	80	126	322
Textron	1,682	57	895	70.0	32	85	55	308	146
Average	\$1,359	98	\$1,148	66.6	50	70	61	-	-

Organisational data on companies

Companies	Diversified majors							Conglomerates						
	Company				Four cos:			Company				Five cos:		
	A	B	C	X	Total	Avg.	'Y'	F	G	H	I	J	Total	Avg.
General executives	5	5	4	2	16	4	23	4	1	4	3	14	26	5
Finance	28	61	101	144	334	84	582	8	22	29	91	106	256	51
(of which Control)	(10)	(36)	(78)	(107)	(231)	(58)	(424)	(6)	(12)	(8)	(38)	(49)	(113)	(23)
Legal-secretarial	4	10	22	42	78	20	92	1	7	5	6	66	85	17
Personnel adm.	11	6	20	25	62	16	90	1	2	3	10	20	36	7
Research & dev.	54	130	139	232	555	139	1012	0	0	0	0	0	0	0
Marketing	5	0	34	0	39	10	101	0	0	0	0	0	0	0
Manufacturing	5	1	0	5	11	3	190	0	0	0	0	0	0	0
Public relations	1	6	9	16	32	8	45	5	3	5	6	9	28	6
Purchasing & traffic	10	1	33	4	48	12	30	0	0	0	2	0	2	0
Corporate planning	3	3	2	6	14	5	8	5	4	1	7	9	26	5
Totals	126	223	364	476	1,189	301	2,173	24	39	47	125	224	459	91

Source: Norman Berg, 'Corporate Role in Diversified Companies', Harvard Business School Working Paper #71-2BP2, reprinted in Alfred D. Chandler, Jr. and Richard S. Tedlow, *The Coming of Managerial Capitalism: A Casebook on the History of American Economic Institutions*, (Homewood, IL: Richard D. Irwin, 1985), pp. 758-759.

these three styles, like the internal organization of the headquarters, result from different paths of growth and, therefore, from different patterns of investment and from different sets of organizational capabilities. These capabilities, in turn, reflect the different characteristics of the businesses in which the firms operate. Finally, the

success of HQ units in adapting those styles to their industries' characteristics determine the effective size and boundaries of their enterprises.

Table 2 suggests the different paths to growth by diversification followed by the firms in each of these styles. The companies in the strategic planning category are by and large the least

Table 2. Three types of management styles and their organization structures

The 16 participant companies				
Company	Main activity	Sales 1985 (£m)	Rank in Times 1000	
BP	Oil	47,156	1	
ICI	Chemicals	10,725	4	
GEC	Electricals	5,222	14	
Imperial	Tobacco, food, drinks	4,919	15	
BTR	Diversified	3,881	18	
Hanson Trust	Diversified	2,675	33	
Courtaulds	Textiles and chemicals	2,173	45	
STC	Electronics	1,997	48	
BOC	Gases and healthcare	1,901	54	
Cadbury Schweppes	Confectionery, soft drinks	1,874	56	
UB	Foods	1,806	60	
Tarmac	Construction	1,536	72	
Plessey	Electronics	1,461	76	
Lex	Distribution	1,041	110	
Vickers	Engineering	611	159	
Ferranti	Electronics	568	169	

Strategic planning companies' organization structures (1985)				
	Number of divisions	Overlaps between businesses	Number of businesses	Overlaps between businesses within divisions
BOC	4	Low-medium	37	High
BP	11	Medium	11 (S)	High
Cadbury Schweppes	4	Low-medium	45 (H)	High
Lex	3	Low	9 (H)	Medium-high
STC	4	Medium-high	20-25	High
UB	3	Medium	13	Medium

Strategic Control companies: organization structure				
	Number of divisions	Overlaps between divisions	Number of businesses	Overlaps between businesses within divisions
Courtaulds	8	Low-medium	30-40	Medium
ICI	20	Generally low	50-60	High
Imperial	3	Low	20-25	Medium
Plessey	3	Medium	20-25	High
Vickers	10	Low	25-30	Medium

Financial Control companies: organization structure				
	Number of divisions	Overlaps between divisions	Number of businesses	Overlaps between businesses
BTR	27	Low	150	Low
Ferranti	5	Low	3	Medium
GEC	12	Low	170	Medium
Hanson Trust	9	Low	70	Low
Tarmac	6	Low	6	-

Source: Michael Goold and Andrew Campbell, *Strategies and Styles: The Role of the Centre in Managing Diversified Corporations* (Oxford: Basil Blackwell, 1987), pp. 7,48,87,112. Reproduced by permission of Blackwell Publishers.

diversified, operate the smallest number of businesses, have the highest linkages between divisions and the highest overlap between business units within divisions. The Strategic Control companies operate more businesses, have fewer overlaps between the divisions and on the whole have less synergy between the business units. Three of the five Financial Control companies are the most diversified in the sample. Of the other two, Ferranti, is small in terms of sales and assets and Tarmac is the only construction company on the list. All five have the lowest linkages between divisions and the lowest overlap between units within divisions.

IMPLEMENTING FUNCTIONS IN FINANCIAL CONTROL COMPANIES

The basic differences in size, personnel, and, therefore, the activities of the corporate office in Financial Control companies and those in the two Strategic categories are much the same as the differences between the American conglomerate and major diversifiers indicated in Table 1. The Financial Control companies in Britain grew almost wholly by acquisition, not by direct internal investment. Hanson Trust, BRT and the smaller Tarmac were true conglomerates. They followed the pattern of most U.S. conglomerates by moving out of their original business after acquiring firms in unrelated industries. General Electric Company (GEC, no relation to the American GE) was a government sponsored merger of Britain's three leading electrical equipment companies which, after a modicum of rationalization, continued to operate quite autonomously with relatively little supervision from the corporate office. GEC grew largely through acquisition. Ferranti, too, is a product of British government policy. The government restored it from bankruptcy in 1974 in order to permit it to regain its position in data handling systems, instrumentation and other electronic businesses for which the military was its largest customer.

In all five the corporate office has remained small. Like those of the U.S. conglomerates these offices include a few general line officers and almost no functional staff executives except in finance and public relations. The division managers are considered part of the corporate headquarters. The division managers 'play a

linking and surveillance role between the units and the centre.' (Goold and Campbell, 1987: 115). So while the corporate executives may suggest strategic moves, the business units within the divisions are responsible for defining their strategies.

In these Financial Control companies the budget is the basic means of control. It thus becomes almost by default the primary instrument of planning. Budgets are prepared by the business units and reviewed and approved by the corporate office with relatively little discussion between executives in the center and the operating units. In approving capital expenditures the corporate office looks for a quick (2-3-year) payback. Each budget (and each project) is treated on its own merits and not in relation to a larger overall strategic plan. Nor do the budgets of one unit relate their activities to those of another.

The budget is taken very seriously. It is considered a contract between the corporate office and the business unit. The center monitors the performance by comparing monthly and quarterly reports of actual results against the budget. (Goold and Campbell, 1987: 129). Current financial performance is the critical measure of achievement. Failure to meet financial targets often means a change in the management of the unit. In drawing up budgets the goal is short-term profit rather than reinvestment for long-term earnings based on a unit's organizational capabilities. Of the 16 companies studied by Goold and Campbell the Financial Control companies had the best profit performance and the largest growth, but growth was almost wholly through the buying of new operating units and not through direct internal investment within existing operating units. (1987: 309-311).

The basic function of the corporate HQ in these Finance Control companies was then administrative or loss preventive. It was to review the financial performances of the businesses controlled and to adjust the enterprises' portfolio accordingly. Weak performers were sold off and new ones that met the logic of this type of control were purchased. In their acquisitions the British conglomerates avoided the buying of enterprises in technologically complex, capital-intensive industries where product and process innovations required long-term investment and associated risks. Lord Hanson and the senior executives of BRT have expressed themselves strongly about

this strategy (Goold and Campbell, 1987: 135, 252; Feder, 1989). Neither of the two Financial Control companies that remain in high technology industries—GEC and Ferranti—have prospered. GEC has moved out of consumer electronics and control systems, and has purchased a shipyard and a weighing machine company. Recently Ferranti sold off its basic data system division which had accounted for 37 percent of its business. If they are to succeed, Goold and Campbell predict, 'a change to Strategic Control may occur' (1987: 144).

The history of the U.S. conglomerates has been more complex than those in the U.K., possibly because the British firms have been more successful in defining their portfolios. The experience has been one of expansive growth through unrelated acquisitions in the 1960s and into the 1970s, then drastic pullbacks in the 1980s.

A brief review of the history of ITT, the pioneering, and for a long time, the largest of the U.S. conglomerates is revealing. Until the 1960s, ITT was a giant global telecommunication enterprise. (Formed in 1920, it acquired in 1925 all the foreign operations of Western Electric, the manufacturing arm of AT&T). In the 1960s under Harold Geneen it began to diversify. As losses of its operating telephone companies in Eastern Europe immediately after World War II and then in Latin America reduced its operations and slowed its growth, the new CEO developed a well considered strategy of growth at home rather than abroad. This plan meant growth by acquisition in unrelated industries, for in the United States AT&T and its Western Electric dominated telecommunications. By the mid-1970s ITT had acquired some 300 companies.

Geneen, an accountant by training, required a detailed set of monthly financial reports from every operating unit. These were analyzed at monthly staff meetings attended by Geneen and all operating managers. The CEO also called for annual business plans and detailed 5-year plans. In the 1970s Geneen was heralded as a pioneer in a new form of business administration—management by the numbers. It did not work. The overload became staggering. One participant, the president of Avis, estimated that comparing and analyzing the annual business plans represented 13 months work for the corporate staff (Dinerstein, 1980).

After Geneen reluctantly retired in 1979, his successor R.V. Araskog pulled back and attempted 'to transform ITT from a loosely based conglomerate into a rational, broadly based, international electronics corporation with major stress on telecommunications,' that is to return to its core business (Sobel, 1982: 70). But it was much too late. ITT never recovered its markets abroad from its powerful competitors, Siemens and Ericsson. By 1988 it had withdrawn from telecommunications and electronics. By then Araskog had sold off over 100 companies and consolidated the remaining seven businesses: four in services—hotels, insurance, financial lending, and information services. These are today its major source of revenue. The other three were industrial businesses: auto parts, pumps and valves, and electric components and systems largely for the U.S. military. By the late 1980s the senior executives at ITT had learned that growth was limited by the corporate HQ's ability to manage profitably its unrelated operating units.

By that time executives in corporate headquarters of other conglomerates had learned much the same lesson. Northwest Industries had been dismembered. LTV and Greyhound were then in bankruptcy proceedings. Gulf + Western had spun off over 100 of its operations to become a movie company—Paramount Communications. Kidde and U.S. Industries had been swallowed up by the Hanson Trust. Those that remained among the U.S. 200 largest industrials had followed ITT's pattern of selling off a major share of their operations and concentrating on industries whose production processes, final products and markets remained relatively stable. If they stayed with more technologically advanced products, they normally sold them to the Department of Defense. Thus, Tenneco focused on shipbuilding for the U.S. Navy, agricultural equipment, and packaging materials as well as its original natural gas pipeline business. Litton had narrowed its business to four product lines—marine engines, industrial automation, oil and gas exploration and defense electronics. By 1989 well over half its business came from defense contracts. Teledyne did much the same with 35 percent of its revenues coming from the federal government. In 1985 Textron spun off 22 divisions and acquired Avco, a long time producer of aircraft parts and equipment which complemented

its Bell aircraft unit purchased in 1960. By 1989 aerospace/defense business accounted for 46 percent of sales, financial services and insurance 29 percent, and consumer products 25 percent.

As the corporate officers of the conglomerates came to realize, the small headquarters as depicted in Table 3 had only facilities for financial control. That is, the function of the corporate HQ were primarily administrative or loss preventive. Such controls were effective in service industries and in industries involving relatively inexpensive production facilities and small R&D expenditures. If the conglomerates remained in more technologically complex, capital-intensive industries, they had little choice but to pull back and to concentrate their portfolios in a small number of groups of related product lines about which the senior executives had more than just financial knowledge and experience and close contacts with buyers, particularly government officials. And they have been challenged to develop strategic and planning capabilities within those industry groups. These firms, like British GEC, appear to be shifting to a style of strategic control.

IMPLEMENTING FUNCTIONS IN STRATEGIC PLANNING AND STRATEGIC CONTROL COMPANIES

The most successful of the conglomerates, a new phenomenon of the 1960s, were those that

Table 3. Planning & control systems for multidivisional firms

	Financial control	Strategic control	Strategic planning
Size of HQ	small	large	large
Mechanisms of control:			
(a) budgets	strong	moderate	weak
(b) strategic plans and reports	none	moderate	strong
Responsibility for strategic definition	business units	divisions	corporate HQ
Inter-business unit interdependencies within divisions	low	moderate	high
Examples	ITT, Hanson Trust	Du Pont to 1980 GE in 1980s	IBM to 1980 Du Pont in 1980s

acquired and managed companies in industries where financial control alone was sufficient to maintain profitability. On the other hand, nearly all major diversifiers in both Britain and the United States were long established enterprises whose headquarters from their beginnings carried out both the entrepreneurial, value-creation function as well as the administrative, loss-prevention one. That is, their relatively large headquarters (Table 3) had been involved in strategy planning and control. All but one of the companies in Goold and Campbell's sample of strategically oriented companies were long lived. That exception, Lex, began as a distributor for Volvo and then continued to operate as a distributing and leasing firm. Except for three leaders in food, drink and tobacco—Cadbury Schweppes, United Biscuits and Imperial Tobacco (Hanson acquired the last in 1986)—these British firms were in industries with relatively technologically complex processes and products. All but the food companies had large research and development departments. All grew much more by direct internal investment than by acquisition. This was also true of the American firms studied—IBM, GE and Du Pont. Each of the three U.S. companies have been for decades the leading firm in each of three significant transforming industries of the past century. Their experience, particularly the growth and pullback of the second two, helps to indicate the ways the ability of the corporate office to carry out their basic functions sets limits to growth.

The planning and control functions and the mechanisms developed by the British companies to implement them in the two strategic styles identified by Goold and Campbell—strategic planning and strategic control—had many similarities. In both, the strategic definition began in the first instance in the business units. In both, division headquarters played a significant role in the review process. In both, the officers at the three levels—business unit, division, and corporate office—had extensive staffs. Both types of companies had annual planning cycles with annual reviews of 'business plans,' and 'operating plans.' These resulted in budgets that, unlike those in the Financial Control companies, were linked to long-term strategic plans. In three companies such plans were formally developed on an annual basis, and in one every 2 years. For the others long-term strategic planning was less formalized. The aim of the business plans

and operating reviews was 'to raise the quality of business thinking, to allow multiple perspectives to be expressed, and to permit corporate views to influence strategy.' (Goold and Campbell, 1987: 70).

The difference between Strategic Planning and Strategic Control companies was that in the first the corporate office played a more decisive role. The different attributes of these two planning and control systems and also those of financial control are summarized in Table 3. Corporate executives in Strategic Planning companies reviewed strategic themes, relating them to their portfolio mix, and examined the particular thrusts or suggestions of the individual business units. In planning they focused attention on interbusiness and interdivisional opportunities and dependencies. The proposals for new projects requiring large-scale capital allocation and entries into new businesses came from both the business and the corporate offices; but corporate sponsorship was essential for any major new initiative. Long and short-term goals (both strategic and financial) and budgets emerged from the agreed-upon plans. Such plans did not exist at the Financial Control companies. Monitoring was carried out through detailed, regularly scheduled reports from the business units giving actual results. But, unlike at the Financial Control companies, financial targets and budgets were not sacrosanct in terms of incentives (bonuses) or sanctions (management removal). Instead, they were the basis for discussions between the business units and centers concerning progress made toward achieving long-term strategic and financial goals. As a result, in the Strategic Planning companies, administrative controls were employed much more flexibly than in those companies using the financial control style or even in those firms relying more on strategic controls.

The Strategic Control companies differed from the Strategic Planning ones in that much of the planning devolved upon the divisional headquarters. This difference reflected a greater number of business units within the firms and a wider variety of businesses served by the firms. The divisions often had as large functional staffs, including those for research and development, as had the corporate office. (Where divisions were placed in groups, the group executives had very little staff and were considered members of the corporate office). The divisions, responsible

for coordinating the activities of the business units under their command, integrated the planning process. Corporate executives rarely made or suggested strategic themes or thrusts to guide the strategic planning process. They made little attempt to coordinate synergies or review interdependencies between divisions. Capital projects and proposals for new business entries came from the divisions, not the corporate office, with the corporate office taking the initiative only on closures and divestitures.

The corporate office did make the final allocation of resources to support the agreed upon strategies and priorities. It set more precisely than did those in Strategic Planning companies long- and short-term goals and strategic and financial targets. As in firms in the other categories, business units reported regularly and in detail to corporate management. But, unlike the Strategic Planning companies, budgets and financial goals were taken seriously. They were not the basis for discussions. They were targets to be met in terms of both incentives and sanctions.

In these companies the corporate office became a headquarters of headquarters. That is, the divisional headquarters carried out most of the functions of the corporate HQs in the Strategic Planning companies, but under the guidance of the corporate office. The arrangement had weaknesses. Often in defining and, particularly in implementing strategy, long-term gains were sacrificed for short-term ones. Opportunities that might have been explored if closer attention had been paid to planning were lost. Such weaknesses suggest how the capabilities of the corporate HQ can limit the effective size of firms in capital-intensive, technologically complex industries. Does a corporate HQ supervising subcorporate HQs really add value? A brief review of the American leaders in each of the three most transforming industries of the past century—computers, electrical equipment and chemicals—raises the same question.

AMERICAN EXAMPLES: IBM, GE AND DU PONT

Although there are no studies comparable to that of Goold and Campbell on the American experience, an examination of the functions of

the corporate headquarters at IBM, GE, and Du Pont—supplement the British story. In addition the data available on these companies provide a much longer time-span than the single decade of the 1980—the timeframe for the British cases. The GE and Du Pont stories, in particular, tell of shifts in planning and control procedures.

In each of the three companies the relationships of the corporate office to the operating units differed widely. The IBM story is one of a highly focused business machinery company that through impressive strategic planning became one of the most powerful first movers in a modern industry. That of GE is one of a relatively unstructured, centralized industrial empire that underwent drastic and dramatic decentralization in the 1950s. In the 1960s and 1970s it probed the boundaries of strategic planning and then in the 1980s moved toward strategic control. The Du Pont experience is more one of a coming up against the limits of strategic control in the 1960s and 1970s and then in the 1980s moving closer to strategic planning.

IBM

IBM, a producer since 1911 of a variety of business machines became the first mover in the computer industry with the introduction in 1965 of its mainframe System 360, the result of 5 years of intense research and development. As entrepreneurs developed new computer architectures for different markets, IBM quickly moved into these markets, becoming the leading producer at home and abroad of minicomputers in the 1970s and of microcomputers in the 1980s. As it advanced in computers, it shed its typewriter and other business machine products. Even so, no other computer company operated in more different markets.

Since the 1960s senior management has been committed to a heavy investment in research and development and to the strategic planning and management development necessary to help assure long-term payback on that investment. Although it occasionally made forays outside of computers, it quickly pulled back. Concentrating on its core products, the corporate office continues to play a major role in planning—a process in which large staffs at both the corporate headquarters and the operating divisions participate. As one executive stressed: ‘We want to

integrate as much as possible and maintain control through centralized planning and tracking, but we also want to decentralize implementation and operating decisions. There are no major strategic decisions that are delegated.’ (Goold and Campbell, 1987: 261).

By the 1980s the planning process of IBM had become elaborate. It had three parts which were closely integrated with the control mechanisms. ‘Program plans’ that usually came from the operating units were meshed with a division (group) plan. The division staff working with the corporate staff then hammered out an ‘operating plan’ which is a 2-year rolling budget. As one executive explained:

The operating plan is the major management vehicle at IBM. It is the point at which all resources are approved—where you get your capital, your headcount, your expense dollars, your parts committed to you from other divisions (Goold and Campbell, 1987: 165).

The 5-year Strategic Plan has been an extension of the Operating Plan. The literature available does not indicate how tight the financial and strategic targets are set. But given the continuing interaction between the corporate office and the operating divisions, one can assume that they have been flexible, as the reasons for differences between actual performance and targets set would have been discussed constantly as forecasted conditions changed. In these ways, then, at IBM the entrepreneurial (strategic) and the administrative (monitoring) functions have been closely intertwined and have reinforced one another. In a fast moving high technology industry, where new products are constantly coming on stream, IBM strategic planning systems have aided the corporate office to maintain dominance for 40 years in competition with well established firms at home and abroad, and with entrepreneurial start-ups at home.

GE

If IBM was the first mover in the most important transforming and growth industries of the second half of the 20th century, GE and Du Pont were leaders in the two most important of such industries at the end of the 19th century. Both

pioneered in modern research and development. Both were among the very first to become multibusiness enterprises on the basis of such R&D.

GE, like the other first-movers in the electrical equipment sector—Westinghouse, and two German companies, Siemens and AEG—quickly expanded beyond its original line of electric power, generating and transmission equipment, urban traction and industrial motors. By World War I its work on wire insulation had already taken it into varnishes, adhesives, and plastics, and its improvement of the light bulb into metal alloys and vacuum tubes. Then came the development of radio and also X-ray equipment, and other medical equipment. In the 1920s, too, GE began to produce a wide variety of electrical appliances, electric locomotives and in the 1930s diesel locomotives. The number of its product lines (lines for which operating results were accounted for separately) rose from 10 in 1900, to 30 in 1910, 85 in 1920, 193 in 1930, and 281 in 1940 (Chandler, 1990: 221).

These diversified lines were administered through a hodge-podge of operating units—functional departments, integrated product divisions, subsidiaries and special ventures. Strategic planning and monitoring was carried out by the corporate office in centralized fashion, that is, on paper at least. By the late 1930s the need to rationalize these lines and to create a structure to manage them was obvious. But World War II delayed reorganization.

Then in 1946 Ralph Cordiner began to restructure. That restructuring became even more sweeping after he became president in 1950. In line with the management thinking of the time, Cordiner fashioned a highly decentralized structure. He set up 70 autonomous product departments each with its own production, marketing and engineering units. These were placed into divisions which, in turn, were administered by one of five groups. (Chandler, 1962: 369). If one department grew large, Cordiner divided it into smaller parts. Thus, there were several departments producing much the same consumer appliances. By 1960 the number of departments had reached 106.

By the 1960s GE's corporate office was losing control. Existing departments grew, often by developing new lines. Diversification had moved the company into more distantly related areas—

commercial jet engines, nuclear power, and computers to name a few. In the late 1960s the company had 190 departments (business units in the terminology of this paper), 46 divisions and 10 groups. By then the overload on the corporate office was becoming intolerable. Profits were down, capital appropriations were made without priorities, and new ventures were doing poorly. (Aguilar and Hamermesh, 1985: 777-779, 783). The limits of growth appeared to have been reached.

Frederick Borsch who succeeded Cordiner in 1963 began to restructure. First, he tightened administrative controls over the departments. He did so by strengthening the divisional staffs and by improving the divisional reporting and accounting controls. Next in 1968 he strengthened the corporate office's planning procedures. He set up two boards: the Corporate Operations Board, responsible for administration; and the Corporate Policy Board, responsible for strategy formulation.

A planning structure was then laid over the existing operational structure. Strategic Business Units (SBUs) were formed to carry out the planning process. They were aligned as much as possible to discrete businesses. Close to half of the divisions (21) also became SBUs. Sixteen SBUs were departments, four were placed in groups. Each of the operating departments sent its strategic plans to one of 43 such SBUs. After coordinating these plans each SBU forwarded it to the Corporate Policy Board. Each SBU had a manager in charge supported by a full-time planner. Thus, by 1980 there were approximately 200 senior planners at GE. (Aguilar and Hamermesh, 1985: 779-786, Goold and Campbell, 1987: 272).

A new CEO, Reginald Jones, who took office in 1972 put the new planning process into effect. It worked well. The company product lines were pruned. Many of the less profitable spun off. A total of 76 lines existed during Jones' term. The profit and loss sheets improved after the hemorrhaging computer division was sold off. Similar sales helped to clean up the 'venture messes.' The corporate office was also impressed by the way the new system improved its ability to carry out the critical task of selection and development of managers.

Nevertheless, the planning overload at the top continued. To reduce that pressure Jones created

another planning level—the Sector. It represented a macro-business or industry area. In the words of one senior planning officer: ‘Conceptually the SBUs are expected to develop new business opportunities by extending into contiguous product-market areas. Sectors are expected to develop new SBUs by diversifying within their macro-industry scopes. And corporate is expected to develop new sectors by diversifying into unserved macroindustries.’ (Aguilar and Hamermesh, 1985: 788). The senior sector executive acted as the GE spokesperson for his macroindustry, had oversight for the SBUs in that Sector, and was responsible for integrating the SBUs’ strategies into a Sector strategic plan.

To stimulate further the planning process the corporate office now began that process by sending ‘strategic challenges’ to the Sectors and SBUs. The SBUs then worked out plans with their Sector Office. Once approved these plans were converted into budgets for each of the departments. Their department general managers were expected to meet the budgeted net income and return-on-investment figures. These targets were taken seriously, but with the recognition that short-term considerations should not threaten long-term positions. (Goold and Campbell, 1987: 272). In these ways, then, Reginald Jones attempted to carry out both the strategic and administrative functions of the corporate office. But given the size of GE and the diversity of its product lines, planning and capital appropriations procedures became bureaucratized. The company was responsible for simply too many units for the corporate office to play an influential role in shaping their strategies. The limits of HQ planning thus determined the limits to growth of the enterprise.

Under John Welch, who took Jones’ place in 1981, the company began to shift away from a strategic planning style toward one of strategic control. Welch sized down GE’s product lines and shifted the company’s product mix even more than Jones had done in the early 1970s. The new CEO kept the SBUs but greatly reduced their staff, as he did those at other levels. He preferred to by-pass the planning process and to have executives in corporate headquarters talk directly with one or two SBU chiefs at a time. By 1985 Welch had eliminated the sectors and groups. As he reduced the administrative and planning organization, Welch intensified the

role of the corporate office in management development. GE, like IBM, had long paid close attention to the training, positioning, and evaluation of its managers.

Earlier in his tenure, Welch grouped GE business units into three categories: core, high technology, and service. The managers of the ‘core’ divisions—the long-established, mature, stable businesses—received relatively little planning or direction from the corporate office. Instead, it controlled through tight budgets and carefully defined strategic targets. Managers’ bonuses, options and future prospects in the company were closely related to their success in meeting these targets. The same style appears to have been used for the GE services category. On the other hand, in new high technology endeavors, Welch and the corporate headquarters continued to play a large role in strategic planning.

By the end of the 1980s, the corporate office at GE had more sharply defined its corporate strategy and structure. The strategy was that, as Welch wrote in the 1989 Annual Report (page 3):

Each business was to be number one or number two in its particular market. For those that were not, we had a very specific prescription—they were to be fixed, sold or closed.

By then GE’s many lines were integrated into 13 different businesses whose heads report directly to Welch, the Chairman, and two Vice Chairmen. Of these businesses, three remain in high technology areas where new product development is critical to continuing competitive success—Aerospace, Aircraft Engines, and Medical Equipment. The others include Electrical Distribution and Control, Industrial Power Systems, Lighting, Motors, Transportation Systems, Plastics, Appliances, and Communication and Services. Except for the last of these, the others are all businesses in which GE has successfully operated for at least 70 years. In addition, there are Financial Services and NBC, the latter coming out of the merger with RCA.

Clearly, the new strategy has meant concentration on those products for which production, distribution and continuing improvement GE has developed impressive organizational capabilities over the decades. With the dismantling of much

of Jones' planning apparatus, the management style has moved towards one of strategic control. At GE, strategy became based primarily on the utilization of organizational capabilities that had been honed over the decades. In managing these businesses in technologically complex, capital-intensive industries where competitive advantage lies more in constantly improving product and process rather than in developing new products and processes, strategic control was the most suitable style to carry out both the entrepreneurial and administrative functions of the corporate office. That is, strategic planning devolved on the businesses (on the divisions in this paper's terms) with the corporate office maintaining overall strategic control.

DU PONT

At Du Pont underlying changes in the planning and control functions of the corporate office came more slowly than they did at GE. Recently, these more evolutionary developments have turned the company from relying on a weak strategic control style to a stronger strategic planning one. So at Du Pont the story is the reverse of that of G.E. In both, the changes in the activities of the HQ unit reflected differences in the characteristics of the industries in which they came to operate.

Du Pont, whose research organization was as old as that of General Electric, was a pioneer in creating the multidivisional form as an answer to management overload resulting from a strategy of product diversification. Indeed, its structure became a model for the growing number of multibusiness enterprises that appeared in the United States in the 1920s and 1930s. (Chandler, 1962: Ch. 2). After the reorganization in 1921 the senior executives of the corporate office carried out both planning and monitoring by maintaining constant and close contact with the heads of the product divisions. (At Du Pont such divisions were termed departments.) In the 1921 reorganization the division heads were given full authority and responsibility for carrying out all activities in their product line, including the improvement of product and process and the planning for future production and distribution. Although each of the five to seven members of the Executive Committee of the board were

assigned product divisions to oversee, they were explicitly denied direct line authority over division managers. They could advise but not order. And until the very end of the 1970s this distinction remained sacrosanct.

The Executive Committee met every Monday in the chart room with the senior managers of one division (in the 1920s and 1930s the divisions numbered between 7 and 10). There, with charts that incorporated nearly every aspect of past and present performance, they reviewed operations and performance and did so by relating them to earlier plans and targets. They then discussed future operations. On the basis of these meetings and the information provided by both corporate and division staffs, the corporate financial office developed budgets and capital appropriation plans that in turn were discussed and approved by the Executive Committee. In this way the corporate office influenced the direction and pace of growth and took control over the performance of the operating divisions.

From the late 1920s on, the corporate department for research began to play a major part in defining the direction of the growth of the enterprise, particularly into markets not yet reached by the divisions. It did so by investing in fundamental research in untapped fields of chemistry. In 1927 the department began such research on polymer chemistry that led to the development of man-made fibers (including Nylon, Dacron, Orlon and Lycra), and neoprene and other man-made materials. Central Research (initially called Central Chemical Department) was responsible for basic research and for the far more costly initial development of new processes and products. Once commercialized, these were turned over to the product divisions for production and distribution and for further refinement. This structure permitted Du Pont to continue its highly profitable strategy of growth through closely related diversification. (Hounshell and Smith, 1988: Chs. 5, 12).

After World War II the company continued to grow by expanding existing lines and developing new ones. Soon, divisions such as textile fibers became as large as the Du Pont Company itself had been in the 1920s. Because of the successful exploitation of fundamental research by Central Research, the Executive Committee now allocated extensive sums to the divisions for comparable research. At the same

time other chemical firms both in the United States and Europe were making much larger investments in research and development than they had before World War II. So product lines proliferated and competition intensified.

Yet, the basic planning and administrative structure of the company remained unchanged. The Executive Committee no longer had the time nor information to influence divisional plans effectively. The divisions, in turn, became increasingly powerful large multibusiness enterprises in their own right. Close working contact between members of the Executive Committee at headquarters and the senior division managers disintegrated. The Committee now did little more than approve of divisional plans and review actual performance by relating it to the plans. As at General Electric, profits went down, product development in both divisional and corporate research became much more costly, and payback on product development was smaller and required more time. Nor were product developments and other interdependencies coordinated effectively within the company. As at GE, the limits to growth appeared to have been reached.

As these difficulties began to press upon the Executive Committee, it entered into an extended debate over what should be done. The outcome was a decision to expand the Development Department which since 1903 had carried on planning activities at the corporate office. An energetic young manager, Edwin A. Gee, took charge. Gee's mandate was to appraise each of the division's 'diversifying activities in order to detect any inadequacies in technology, markets and organization.' (Hounshell and Smith, 1988: Ch. 22; Fast, 1977: Ch. 5). His department was also to seek out new business opportunities in areas not covered by the divisions. For antitrust reasons Gee and the Executive Committee decided not to grow through acquisition of even small firms and to stay out of defense oriented industries. Instead, Gee's department was to concentrate on developing new ventures that used some of Du Pont's specific organizational capabilities. Some of the new products developed did pay off. But by the mid-1960s the Committee and Gee agreed that the 'New Venture Program' was not a success. The heavy investment in R&D was not paying off. Too often the company's specific functional capabilities were not enough

to achieve a strong competitive advantage in the new product markets. And the necessary complementary facilities and skills were too costly and time consuming to create.

This outcome and the continuing low rate of return on investment led the Executive Committee for the first time since 1920 to appraise, seriously, itself and the basic strategy and structure of the company. One Committee member, Lester Sinness, attributed the deteriorating earnings to low research productivity and the failure of the Executive Committee to play a guiding and coordinating role. He considered, 'the research output of the company as a whole to be disgraceful and inexcusably low in proportion to the caliber of the men we employ, the facilities we give them, and the amount of money we allow them to spend.' (Hounshell and Smith, 1988: 531). But essentially, he insisted, the Executive Committee had only itself to blame. In the earlier self-examination, proposed changes were:

submerged in a welter of conflicting opinions within the Executive Committee... Through a distorted preoccupation with the concept of the departmental autonomy...the Executive Committee loses sight of its own responsibilities. [It] appears to sit only as a judicial body reviewing the past performances of the Departments [divisions] and weighing whatever projects and proposals on policy and procedures may emanate from the Industrial or Staff departments. The Executive Committee seldom discusses or initiates anything of and by itself.

Through its 'ritual schedule of charts and reports,' Sinness continued:

the Committee no longer had the time needed to examine and discuss periodically the future of the company or determine whether the company policies, organizations and procedures needed altering.

Another member urged the Committee 'to take a more critical role in originating and implementing programs to insure the future health of the company.' By the mid-60s Du Pont suffered from ineffective planning mechanisms for the enterprise as a whole and weak controls

over the operations and performance of the operating units.

Even so, change came slowly. The president, Charles B. McCoy, and other members of the Committee were cautious. In 1967 came the organizational restructuring mentioned earlier that created the autonomous business units (termed profit centers) whose managers were responsible for production, distribution, R&D, and profit and loss in the product business they headed. The departmental (divisional) headquarters monitored and helped to plan the activities of the business units under their supervision. They decided, for example, how funds for research would be allocated to their different business units.

The next move came 7 years later when the Committee created a small 12-person Corporate Plans Department. It was to have 'broad responsibility' for coordinating all strategic business planning activities in the company, specifically by analyzing Du Pont's portfolio of businesses. (Hounshell and Smith, 1988: 585). The Development Department was folded into Central Research. At the urging of the new planning department the Executive Committee reduced the research budgets in the operating divisions, particularly funds for fundamental research, and put tighter controls on the initiating of research programs not closely related to existing product lines or technologies. The company's long-term, more fundamental research became concentrated in the enlarged corporate research department. The Committee agreed that Corporate Plans working with Central Research should play a critical role in defining the company's broader strategic moves into new lines. To assure that it carried out this function the Committee in 1979 gave its member designated as research advisor, Edward G. Jefferson, line authority over Central Research. This was the first time since the 1921 reorganization that an Executive Committee member was given such authority. Jefferson's initial strategic move was a commitment to the company's long-term development of the new biogenetic field and other life sciences, particularly in pharmaceuticals and agricultural chemicals. (Hounshell and Smith, 1988: 505-507).

After Jefferson became CEO in May 1981 he continued to strengthen the role of the corporate office in both its planning and resource allocation and monitoring functions. (Hounshell and Smith,

1988: 591). Members of the Executive Committee began to have authority and responsibility for the performance of the divisions under their supervision. During the 1980s, as the company began to move into specialty chemicals, electronics, medical and other high technology products and to spin off some of its commodity chemicals, they became more deeply involved in strategic planning. But the lines of authority and responsibility were becoming unclear. Moreover, in the making of strategic and administrative decisions, Executive Committee members tended to see issues in terms of the businesses they knew best and those for which they were becoming increasingly responsible. In addition, the top managers of Conoco, the oil company, unexpectedly acquired in 1983, had not yet been integrated into the corporate office. The resulting pressures led to a careful analysis of the company's organization. In the Fall of 1991 came the announcement of the most far reaching internal restructuring that the company had undergone in 70 years.

The new organizational structure abolished the Executive Committee and existing Departments (divisions in the terminology used here). An Office of the Chairman and an Operating Group were created. The first consisted of the Chairman (the CEO), a vice chairman (whose special area was science and technology), and Executive Vice President for Conoco. Attached to that office were two Senior Vice Presidents—one for Human Resources and Corporate Planning and the other for Finance. The Operations Group included these five, plus 14 Du Pont executives and five Conoco executives. Four of the latter were responsible for the different functional activities in the oil business, and one was in charge of Consolidation Coal, a major enterprise, that came with the Conoco acquisition. The Operating Group has oversight of all the company's products, functions and geographical regions.

As part of the reorganization, the Du Pont product lines in its reshaped portfolio of businesses were consolidated in seven 'industrial segments.' Within the segments closely related product lines were grouped for administrative purposes as profit centers. Four of these segments—Polymers, Agricultural Products, Electronics, and Imaging and Medical Products are in industries where new product development remains essential for competitive success. Three—

Fibers, Chemicals (petro-chemicals and pigments) and Automotive Products—are in more mature stable industries where competition is based more on improving product and process. The remaining six senior vice presidents that make up the corporate office are responsible for the functional activities of the corporation as a whole—Research & Development, Engineering, Information Systems, Logistics (purchasing), External Affairs and Legal. By this reorganization the executives in the corporate office now have far more direct operating and planning responsibilities than they had during the previous 70 years.

The stated objectives of the reshaping of the corporate office was to break down barriers between operating divisions and to have top management develop a corporate rather than a product or functional perspective. To encourage the latter, most Senior Vice Presidents that make up the Operating Group handle more than one activity. For example, a Senior Vice President for Chemicals also has responsibility for manufacturing for the company as a whole and that for Electronics oversees the Asia/Pacific region. In this way the corporate headquarters is expected to develop a global view, to enhance human capabilities at all levels and to speed up high level decision-making. At Du Pont, where the portfolio includes a number of new and technologically advanced products, the functions of the corporate headquarters have been strengthened; while at GE, where the strategy has concentrated on obtaining dominant positions in more mature and stable industries, the role and size of the corporate office has been reduced.

The effectiveness of the more focused long-term strategy of Du Pont and GE and the resulting structures will be determined in the 1990s. (I see the purchase of Conoco, like GE's acquisition of RCA, not as part of long-term strategy but rather responses to the more immediate and most complex business situations). In carrying out and modifying the new strategies and in implementing and tuning of the new structures, the executives in the corporate office at Du Pont and GE should keep in mind the lessons learned during the 1970s and 1980s about the paths to growth and the limits to the size of the firm.

One lesson of those years was that moves into new businesses based on existing capabilities required the development of a set of complemen-

tary ones to supplement existing skills and facilities. If the production facilities provided competitive advantage in the new market, in most cases complementary marketing capabilities needed to be developed. Another lesson was that, not only were the size and boundaries of enterprises shaped by existing capabilities and success in the developing of complementary ones, but they were also determined by the ability of the corporate headquarters to carry out both its basic functions—entrepreneurial and administrative.

Most significant of all, they learned that the HQ functions varied with the characteristics of the industries in which they operated. Therefore, the production and distribution of different types of products or services required different types of planning and control systems. In industries in which new product development is a critical component of interfirm competition, where R&D expenditures are high, state-of-the-art facilities costly, and marketing required specialized skills, the corporate office needs to concentrate on the entrepreneurial (value-creating) function. Here it needs to play a strong role in the strategic planning process if it is to utilize fully their company's existing competitive strengths in technologically advanced businesses and to determine paths for new product and process development. In more mature industries where the nature of the final product remains stable, where R&D expenditures continue to be essential, but are primarily for improving product and cost-cutting processes, and where facilities are costly and marketing complex but the facilities and skills required have been well established; in such industries the corporate office can more easily delegate strategic planning to the operating divisions, and maintain strategic control by setting targets and establishing long-term goals for the corporation as a whole. Finally, as the experience of the conglomerates reinforce, in the service industries and mature manufacturing industries in which the products remain much the same, where the technology of production is not complex, where facilities are less costly and where competition rests more in distribution and marketing, particularly advertising, than in production or R&D, financial controls alone have been usually enough to prevent losses and maintain profits in multibusiness enterprises.

CONCLUSION

The story told here of Du Pont, GE and the U.S. conglomerates is representative of much of American industry. The 1980s were for U.S. industrial firms a decade of reshaping corporate strategies and rebuilding organizational structures. As firms focused on a smaller number of product lines, they often used funds received from the spin-offs to acquire other enterprises needed to fill out their portfolio of related lines. Most of these rearrangements were carried out through friendly transactions, but at times firms were acquired by hostile takeovers. As Bhadgat, Shleifer, and Vishny (1990) report, even hostile takeovers by raiders ended in the hands of other firms in their sectors with the raiders profiting (handsomely) as temporary brokers. On the whole, however, the capital markets in the form of raiders, and of LBOs and other privatization forms have played only a limited constructive role in the recent restructuring of American industrial enterprises.

The part played by the capital markets in this corporate restructuring reflects, in much the same way as the changes made by senior corporate managers in their strategy and structure, the characteristics of the industries in which the enterprise operates. For example, one major innovation—the privatization of enterprises through LBOs and other techniques has been insignificant in capital-intensive industries where competitive strength depends on continuing long-term investment in R&D and costly capital facilities; that is in industries where strategic planning and control has been essential to remain competitive. The great majority of the firms privatized have been in industries where financial controls were sufficient to maintain the competitive capabilities of the operating unit of a multibusiness enterprise.

As Bronwyn Hall's studies of 2000 manufacturing companies' (1990, 1992) documents, between 1977 and 1987—the period of the LBO boom—224 of the 1980 public companies had become privatized. (Of these only 76 were LBOs). The 224 accounted for 5.7 percent of the total employment of the companies studied but only 1.4 percent of total R&D expenditures. Of these 224, 150 were smaller firms in what Hall defines as low tech industries (food, textiles, including apparel, paper and wood products) and stable

short-term horizon industries (fabricated metals; stone, glass and clay; rubber and plastics; soap and toiletries). Where these industries accounted for 36 percent of total manufacturing employment in her over-all sample, they accounted for 83 percent of employment of the firms that had gone private. Where for the U.S. manufacturing sector as a whole R&D investment averaged \$2,000 per employee, for the firms that went private the average was \$500 per employee. Hall's information shows that after a decade of well publicized privatization, privatized firms are finding a place in low technology and other industries where R&D is minimal. It also emphasizes that the widely-held public company overwhelmingly dominates in the capital-intensive, technologically complex industries on which so much of the nation's industrial growth and competitive success depends—industries that include chemicals, pharmaceuticals, aircraft and aerospace, computers and semiconductors, electrical and electronic equipment, oil, metals, and a wide variety of agricultural, construction, mining, and industrial equipment, engines, motor vehicles and other transportation equipment.

Hall's data also emphasize that financial entrepreneurs and intermediaries have become aware, as have corporate managers, of differences in industry characteristics. Money managers learned that, if firms in the more capital-intensive, technologically complex industries were to remain competitive, they would have to make long-term investments in highly product-specific skills. Such long-term investments demanded value-creating strategic planning and control by experienced managers as well as a continuing reinvestment of earnings (particularly from established lines) into new and improved products and processes. So in assisting and even promoting LBOs and other privatization transactions, financiers concentrated on firms and industries where capital costs are relatively low, specific skills not complex, synergies from R&D, production and distribution are limited and where cash flows are relatively steady, and long-term strategic planning relatively unnecessary. In such industries multibusiness firms have few competitive advantages over single business ones. Firms in such industries, whether operated through the office of a conglomerate or an LBO association, can be administered through financial control alone. But such industries are not the major sources of economic growth

and transformation, or of national competitive strengths. In the industries that require long-term investment in R&D and capital facilities, the public corporation will continue into the 21st century to be, as it was throughout the 20th century, the engine of industrial strength and transformation.

In the 1980s business and financial managers learned the importance of understanding the differences in industry characteristics in the management of their business and the making of their investments. The time has come for academics to learn to make comparable distinctions in their analyses of business enterprises and their management.

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NOTE: Information on individual companies not cited in the above publications are from annual reports, *Moody's Manual*, M. Moskowitz, Michael Katz, and Robert Levering, *Everybody's Business: An Almanac*, Harper & Row, San Francisco, 1980, and *Everybody's Business*, Doubleday, New York, 1990 and D. C. Stafford and R. H. A. Purkis, *Directory of Multinationals*, Stockton Press, New York, 1989. I am indebted to Gordon Smyth for information on the recent Du Pont reorganization.