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No Exit: The Failure of Bottom-up Strategic Processes and the Role of Top-down Disinvestment

Donald N. Sull

Introduction

Scholars in the field of strategic management have studied extensively how organizations initiate new activities such as acquisitions, international expansion, or investment in new technology. Researchers have devoted far less attention, however, to studies of organizational exit from existing operations (Ross and Staw 1993; Burgelman 1996). Much of the research on exit focuses on how organizations that get out of a business altogether through strategic business exit (Burgelman 1994, 1996), divestiture of businesses within a diversified portfolio (Gilmour 1973; Hoskisson, Johnson, and Moesel 1994), or de-escalation of commitment from a new strategic initiative (Ross and Staw 1993). This research, in contrast, addresses the process of disinvestment whereby organizations remove resources from an ongoing business. Disinvestment entails the reduction of productive capacity such as closure of factories, retail bank branches, local offices, or hospitals without exiting the business altogether.

Strategy content researchers have explored the question of the optimal product-market position when an industry faces predictable declines in primary demand (Porter 1980; Harrigan 1981; Lieberman 1990; Ghemawat and Nalebuff 1985, 1990). This research, which takes a complementary approach, explores disinvestment from a strategy process perspective. Specifically, we view the process of removing resources from an ongoing business as part of the evolutionary process that takes place within an organization (Burgelman 1991; Miner 1994;

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Lovas and Ghoshal 2000). Organization theorists have productively applied evolutionary theory to social sciences by using a general framework of variation, selection, and retention to explain how individual organizations or populations evolve over time (Campbell 1969; Aldrich 1979; Weick 1979). Viewed from this perspective, disinvestment poses an interesting dilemma because it requires an organization to reverse its retention mechanisms. A study of disinvestment, therefore, may shed light on the broader theoretical question of how organizations let go of previously selected and retained units.

An evolutionary perspective can serve as an overarching framework for integrating diverse theoretical traditions (Barnett and Burgelman 1996). This chapter introduces a grounded theory of the disinvestment process that draws on two theoretical streams: the intra-firm resource allocation process (RAP) model developed by Bower and Burgelman (Bower 1970; Burgelman 1983*a*; 1983*b*; 1983*c*) and resource dependence (Pfeffer and Salancik 1978). The proposed model of the disinvestment process has five components—the core resource allocation process and four factors that influence it (see Fig. 7.1).

The center component of the framework is the process within the organization for allocating resources. This process is considered strategic because the allocation of resources is a powerful mechanism for selecting among alternative initiatives that subsequently set the organization's strategic trajectory (Burgelman 1991). Bower and Burgelman modeled the intra-firm RAP as taking place in predictable stages across levels in the organizational hierarchy, and researchers have found the Bower–Burgelman framework to be a robust model for studying diverse strategic processes, including firms' response to disruptive

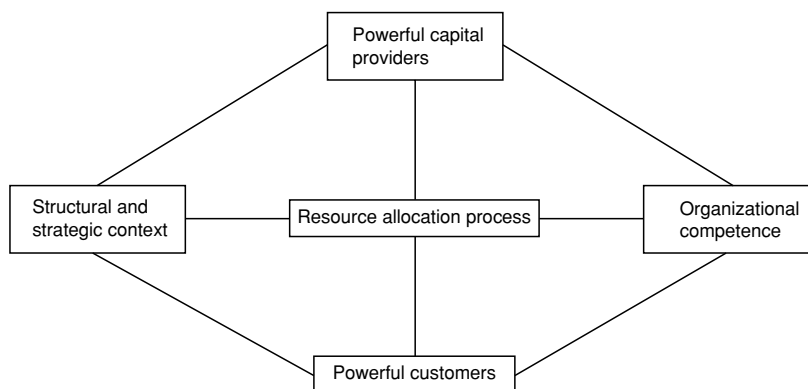


Figure 7.1 Process model of disinvestment

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technology (Christensen and Bower 1996; Gilbert 2002), internal corporate venturing (Burgelman 1983*c*), business development (Noda and Bower 1996), and others (see Bower and Doz 1979 for a comprehensive review of earlier research using this framework).

The second component is the established internal context. An organization's resource allocation process is shaped by the structural and strategic context within the firm. In evolutionary terms, the context is the enduring set of cognitive frames, rules, and processes that shape which strategic initiatives are identified and defined—i.e. variation—and which receive support from middle managers and ratification from top executives—i.e. selection and retention (Burgelman 1991). *Structural context* refers to organizational levers, such as information systems, performance goals, organizational design, and compensation plans that top executives can manipulate to influence indirectly what type of strategic initiatives are defined and selected (Bower 1970). *Strategic context* refers to an organization's official strategy, which induces initiatives consistent with the strategy while discouraging autonomous strategic initiatives that fall outside an organization's official strategy (Burgelman 1983*c*).

The third component in the model is an organization's distinctive competence (Tece, Pisano, and Shuen 1997). Initiatives that build on an organization's competence are more likely to be defined, selected, and retained; those that do not or actually destroy existing competencies are less likely to be defined or selected (Tushman and Anderson 1986; Burgelman 1994).

The final two components consist of customers and investors who provide the financial resources necessary for an organization's survival. *Resource-dependence* theory posits that managers' decisions will be influenced by the demands of external stakeholders who provide resources necessary for continued survival (Pfeffer and Salancik 1978). Christensen and Bower (1996) explicitly linked resource-dependence theory with the Bower–Burgelman model of resource allocation. They found that incumbent firms were unlikely to commercialize new technologies that failed to serve the demands of their largest customers, even when these innovations posed only modest technical challenges to commercialize. According to resource-dependence theory, providers of financing, including investors and lenders, represent another critical source of resources required for an organization's survival. Although earlier studies noted the influence of capital markets (see for example Noda and Bower 1996: 173), that research did not explicitly incorporate the role of investors and lenders in the resource allocation process. Our research integrates providers of capital—along with customers,

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competence, and context—as an important factor shaping the resource allocation process.

The process model of disinvestment is grounded in an in-depth clinical study of a single company over twenty-eight years. Three primary findings emerged from this study. First, a bottom-up resource allocation process that effectively generated, selected, and retained investment proposals failed to produce necessary disinvestment. Second, a top-down resource allocation process led by an active CEO who defined and implemented exit decisions was necessary to remove resources from the core business. Third, powerful investors and lenders played a critical role in selecting and supporting the CEO who led the top-down disinvestment process.

Methods

Studying an organization's internal resource allocation process poses significant methodological challenges. The process is a complex unit of analysis incorporating activities across multiple levels in the organizational hierarchy and external resource providers. The process takes place within the firm and precludes exclusive reliance on public archival data. Moreover, strategically important outcomes, such as investment in a new technology or exit from an existing business, can unfold over many years and require an extended observation period that introduces systematic biases in retrospective accounts arising from past rationalization or faulty memory (Golden 1992). This study was designed to address these challenges.

Research Setting

The research was conducted at Firestone Tire & Rubber Company. Firestone, founded in 1900 in Akron, Ohio, had emerged by 1917 as one of the four largest tire producers in the United States (Chandler 1990: 640). The study analyzed how Firestone responded to the introduction of radial tire technology into the US market. Radial tire adoption required domestic competitors to remove resources from their ongoing tire businesses by closing factories devoted to manufacturing the traditional product design (known as 'bias tires'). The observation period began in 1960—a few years prior to the introduction of radials into the US market—and extended through 1988 when Firestone was acquired by the Japanese tire manufacturer Bridgestone.

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This clinical study is part of a broader research project studying the response of incumbent US tire companies to radial technology that includes a comparative case study (Sull, Tedlow, and Rosenbloom 1997) and a statistical analysis of the predictors of plant closure (Sull 1997).

Research Design

The need for in-depth data on the intra-firm process suggested a single case design. The selection of Firestone among incumbent tire makers was based on the quality of archival data and my level of access. Of the three companies that offered unlimited access to their corporate archives (i.e. Firestone, B. F. Goodrich, and General Tire), Firestone had the most comprehensive archives. The study was based on a longitudinal, nested design with the resource allocation process as the focal unit of analysis (Yin 1989; Leonard-Barton 1990). The research consisted of two stages that combined inductive and deductive approaches to develop the conceptual model (Burgelman 1996; Lovas and Ghoshal 2000). In the first stage, I collected archival data on Firestone's response to radial tire technology. This largely inductive stage resulted in a purely descriptive case study (Sull 1999). In the second stage, I drew on existing theories of strategic processes (Bower 1970; Burgelman 1983*c*), resource dependence (Pfeffer and Salancik 1978; Christensen and Bower 1996), and intra-organizational ecology (Burgelman 1991; Lovas and Ghoshal 2000). These theoretical readings provided the conceptual building blocks I used to construct the process model of disinvestment. Using these building blocks, I then reinterpreted the data and further refined my emerging model. The iterative cycling between inductive case data and existing theory enables researchers to develop conceptual models characterized by high levels of internal validity and links to existing literature (Eisenhardt 1989*b*; Strauss and Corbin 1994).

Data Collection

Firestone's internal corporate archives provided the primary source of data for this study. (See Table 7.1 for a summary of archival data sources.) These records included detailed transcripts of discussions as well as all exhibits and analyses presented in the monthly board of directors, the biannual finance committee, and weekly executive

Table 7.1 *Summary of Firestone archival data sources*

Data source	Period covered	Frequency	Description
Board of Directors Minutes	Jan. 1960– Mar. 1988	monthly	Near verbatim minutes of discussion of Firestone’s board of directors. These archives also include copies of all exhibits and analyses presented in the meetings.
Executive Committee Minutes	Jan. 1960– Oct. 1980	bi-weekly	Near verbatim minutes of discussions by Firestone’s Executive Committee, which consisted of Firestone’s top six executives and was charged with considering all investment and disinvestment decisions. The Committee was dissolved in 1980. Minutes include all exhibits and analyses presented in meetings.
Internal financial reports	Oct. 1960– Oct. 1980	annual	A comprehensive report of financial data (e.g. revenues, profits, inventories) for each division. The report also includes budget for comparison to actual performance. Discontinued in 1980.
Finance Committee Minutes	Mar. 1981– Dec. 1987	bi-annual	Minutes of meetings by committee established in 1981 to oversee capital budgeting, financial performance, and capital structure. Includes detailed financial information.
Remarks of CEO to annual shareholders’ meeting	Jan. 1960– Feb. 1987	annual	Verbatim transcript of Chairman’s address to Stockholders.
Annual Reports	Oct. 1945– Dec. 1987	annual	Including 10k and proxy statements.

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committee meetings. The executive committee consisted of the six most senior Firestone executives and existed to “review and take action upon all appropriations and all [proposals for] new plants, major expansions, acquisitions . . . including major capital spending or other matters of corporate policy” (Firestone by-laws, 1970). The deliberations of this committee provided a productive focal point for my analysis. I read the transcripts in strict chronological order to attempt to recreate the flow of events as they unfolded over time (Van de Ven 1992; Pettigrew 1990).

I supplemented the archival data with over twenty taped interviews with Firestone directors, executives, front-line employees, and customers. Interviews, which lasted between one and eight hours, included both open-ended questions and targeted enquiries about specific events such as the discussion in a particular meeting or the respondent’s rationale for a decision. I relied on follow-up interviews to explore discrepancies between the respondents’ retrospective accounts and my chronology based on archival data. I conducted a literature search for articles written about Firestone in the major business press—i.e. *The Wall Street Journal*, *Fortune*, *Business Week*—industry trade journals—i.e. *Modern Tire Dealer*, *Elastomerics*, *Rubber and Plastics News*, and Akron’s daily newspaper, the *Akron Beacon Journal*. The United Rubber Workers Union and the Rubber Manufacturers’ Association provided additional data on Firestone and the tire industry as a whole. I collected documents and articles for the period 1960–88 and summarized and coded approximately 1,000 articles and entered them into an Excel database. These articles allowed me to triangulate using internal reports of corporate activity and study external parties’ responses to these actions (Jick 1979). I also collected internal and external financial reports for the period 1960–88, including financial presentations to the board, 10Ks, and proxy statements, to create a schedule of the company’s balance sheet, income statement, and cash-flow position over time. Daily stock price data on Firestone, its major competitors, and the S&P Index allowed analysis of Firestone’s stock performance and investors’ response to specific announcements.

Data Analysis

The data were analyzed using a grounded-theory approach that included iteration between rich clinical data and existing theoretical frameworks to categorize and structure the emerging findings (Glaser and Strauss 1967; Eisenhardt 1989b). In the first stage, archival,

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interview, and public source data were assembled into a chronology in a spreadsheet that became the basis for a descriptive narrative organized by years (Strauss and Corbin 1990: 116). In the second stage, I drew on existing theory for conceptual categories that formed the components of the process model of disinvestment. It was at this stage that I recognized that the existing strategy process literature did not incorporate the role of capital providers and that the explicit inclusion of capital markets as an influence on the intra-organizational resource allocation process would be necessary to model my clinical data.

Process Model of Disinvestment

This section uses the process model described in the introduction to structure the findings from the clinical research. The focus of the model, to recap, is the intra-firm resource allocation process as well as the four variables that influence the process—i.e. strategic and structural context, distinctive competence, powerful customers, and powerful capital providers. The findings are organized into these five categories and the events divided into three separate eras: Firestone's initial response to radial technology (1960–72), the company's subsequent delay in closing unnecessary capacity (1973–9), and the ultimate capacity reduction by an outside CEO (1979–88). This section develops the model by elaborating how each of the five elements shaped Firestone's response to the new technology and attendant need for disinvestment. (See Table 7.2 for a summary.)

Initial Response to Radial Technology (1960–1972)

Entering the 1960s, Firestone's 25 per cent share of the domestic tire market made it the second-largest competitor. In the 1960s, the US tire industry could be described as a stable oligopoly facing steadily rising demand. Demand—as measured by domestic tire unit shipments—grew at a rate of 5.2 per cent compound annual growth between 1960 and 1972. The top five domestic tire firms—Goodyear, Firestone, B. F. Goodrich, Uniroyal, and General Tire—together accounted for over 80 per cent of industry capacity and shipments and captured nearly all the growth in volume over this period. Between 1960 and 1972 these five companies responded to increased demand by building eighteen new domestic tire plants.

Table 7.2 *Process model of disinvestment by era*

	More of the same (1960–72)	Stalling in reverse (1973–9)	Cuts from above (1979–88)
Intraorganizational resource allocation process	<p>Bottom-up process results in proposals to extend existing technology to forestall radial adoption</p> <p>Bottom-up process results in rapid investments in radial production when automobile manufacturers demand the new technology</p>	<p>Bottom-up process continues to produce investments in radial tire production and other proposals intended to increase revenues</p> <p>Front-line employees and middle managers fail to define and lend impetus to proposals for reducing bias tire capacity</p>	<p>Outside CEO imposes top-down resource allocation process that produces disinvestment</p> <p>Top down process fails to achieve revenue growth targets, in part because it fails to capture specific knowledge at lower levels in the organization</p>
Strategic and structural context	<p>Strategic focus on tires and closely related businesses</p> <p>Psychological contract of job for life buffers managers from capital market implications of investment decisions.</p> <p>Focus on revenue growth</p>	<p>Executives maintain strategic focus on tires despite high investment necessary to convert to radials and low projected returns</p> <p>Perceived obligation to protect employees' job security hinders executives from disinvestment</p> <p>Continued emphasis on revenues growth</p>	<p>New CEO maintains focus on tire industry but company-owned stores to increase sales</p> <p>New CEO breaks psychological contract of job for life and replaces it with market-based incentives</p> <p>New CEO emphasizes debt reduction and cash generation over revenues growth</p>

(Continues)

Table 7.2 (Continued)

	More of the same (1960-72)	Stalling in reverse (1973-9)	Cuts from above (1979-88)
Powerful customers	Automobile manufacturers initially accept belted-bias tires, but ultimately demand radial tires from Firestone and its competitors	Automobile manufacturers continue to demand radial tires, but do not apply pressure for disinvestment from bias tire production	Automobile manufacturers do not apply pressure to disinvest from bias production
Organizational competence	Leverages its existing manufacturing competence by producing belted-bias tires Attempts to use existing equipment to manufacture radials	Delays in closing bias tire factories do not stem from desire to preserve necessary competencies, since radial tire production requires unlearning of bias tire manufacturing processes	New CEO does not rely on middle managers and front-line employees in assessing which competencies should be preserved
Powerful capital providers	Firestone's dependence on external sources of capital was limited because the company generated sufficient cash flows to cover investments Managers occupy more board seats than Firestone family representatives, and no outside directors until 1972	Firestone becomes more dependent on outside sources of financing to finance investment in radial capacity and mounting losses from bias tire factories Number and influence of outside directors steadily increases	Firestone's major investors and lead bank work through the board to appoint an outside CEO and then support in his efforts to disinvest Outside directors constitute a majority of the board

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During the 1960s, Firestone and the other domestic tire producers faced a threat—radial tires lasted twice as long as the bias tire technology they replaced in addition to increasing fuel-efficiency, handling, and tire safety (*Consumer Reports*, 1968). Longer-lasting tires depressed demand for replacement tires and required incumbent tire manufacturers to close bias tire plants as they replaced bias tire sales with radials. French tire maker Michelin pioneered the radial tire and used its superior safety, wear, and ride to increase market share throughout Western Europe. In the mid-1960s, Michelin turned its sights on the US market. Michelin, which contracted with Sears to manufacture radial tires under the Allstate label, announced its intention to build a \$100 million radial tire factory in North America. Domestic rival B. F. Goodrich introduced domestically produced radials as an opportunity to gain market share from larger rivals Firestone and Goodyear (Blackford and Kerr 1996: 276).

Resource Allocation Process Between 1960 and 1972, Firestone's process for allocating resources conformed closely to the bottom-up model predicted by the Bower–Burgelman model. Frontline employees—primarily marketing or sales representatives—identified opportunities to sell additional tires to Firestone's existing customers. Middle managers selected among these proposals and presented them for approval to Firestone's executive committee, which met on a weekly basis to review investment proposals. Throughout this period, the executive committee served as a *de facto* surrogate for the board of directors, because all members of the executive committee served as directors, where they constituted a majority throughout the 1960s and 1970s. The executive committee approved nearly all the proposals it reviewed, according to executives' retrospective accounts of the committee's deliberations between 1960 and 1972.¹

Consistent with earlier research (Cooper and Schendel 1976), Firestone and Goodyear initially responded to radial tires by introducing a slightly modified version of the traditional tire technology. Goodyear introduced the product—known as the belted-bias tire—in 1967 and promoted it heavily as an alternative to radial tires. Firestone introduced its own belted-bias tire a few months later. Firestone's bottom-up resource allocation process quickly approved the requests for investments required to modify existing production equipment to manufacture belted-bias tires. Lee Brodeur, a Firestone executive during this period, later recalled that manufacturing belted-bias tires required 'a certain amount of development and improvement, but nothing major. It was pretty much business as usual' (Brodeur, interview, 1994).

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The tire manufacturers' promotion of belted-bias tires delayed the adoption of radial tires but did not halt their acceptance altogether. In 1972, General Motors announced its intention to place radial tires on all models over the coming years, following a similar decision that Ford had announced a few months earlier. The tire companies knew that the automobile original equipment manufacturers (OEMs) were considering radials. During the 1960s, General Motors and Ford had both created internal task forces to evaluate radial tires for US automobiles, and Ford had made radials standard on the high-end Lincoln Continental model in 1970. General Motors and Ford even explored the possibility of manufacturing their own radial tires and sent surveys to their dealers to gauge their support for the proposal (*Modern Tire Dealer* 1971). Although tire industry executives were aware of the OEMs' interest in radial tires, they hoped for a gradual transition, and the abruptness of General Motors' announcement and the speed of the transition caught them off guard.

Firestone's bottom-up resource allocation process rapidly responded to the OEMs' demand for radials. Firestone's executive committee met in November 1972 to discuss their reaction to the auto manufacturers' demand (executive committee minutes, 3 November 1972). Mario DiFederico, the vice-president of manufacturing, informed the committee that the marketing managers already had committed to providing 433,000 radial tires to Ford and General Motors within seven months and noted that the marketing department saw an opportunity to sell even more tires if Firestone could manufacture them. The committee instructed DiFederico to purchase required equipment immediately and bring a formal request to the committee as soon as possible, in effect approving the proposal prior to formal review by the committee or the board.

One month later, the committee met formally to consider the proposal to invest \$90 million for a new radial plant and \$56 million to convert existing plants to radial production. The proposal was promptly approved (executive committee minutes, 6 December 1972). The committee's discussion focused on the details of ramping up radial production rather than an analysis of the strategic implications of the large investment in the new technology. The strategic issue, 'whether management wants to invest the substantial capital to provide the additional capacity that will be required', was placed in a footnote to the ninth page of DiFederico's proposal. The minutes did not record, nor did participants in the meeting report, any discussion of the strategic implications of the large investment or the need to close existing bias capacity.

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Strategic and Structural Context *Strategic context* refers to an organization's official strategy that induces initiatives consistent with their strategic intent (Burgelman 1983c). Firestone managers' decision to invest in belted-bias and then radial technology were consistent with their official corporate strategy of remaining a 'tire company', and were therefore induced by the strategic context. Between 1945 and 1972, Firestone had remained focused on the tire business, which accounted for 80 per cent of its revenues (annual reports, various years). Whereas many large corporations diversified their portfolios during the takeover wave of the 1960s (Ravenscroft and Scherer 1987), Firestone executives limited their diversification to closely related businesses (e.g. steel wheels, external sales of synthetic rubber).

Structural context refers to 'the various organizational and administrative mechanisms put in place by corporate management to implement the current corporate strategy' (Burgelman 1983c: 229), including formal organizational structure, information systems, and metrics (Bower 1970: 262–9). Performance measures and rewards, a critical component of the structural context, can exert a strong influence on proposals defined by frontline employees and lent impetus by middle managers (ibid. 265–9; Eisenhardt 1989a). In many cases, these agreements are not formalized in explicit contracts, but rather take the form of widely understood tacit agreements or 'psychological contracts' (Rousseau 1995). At Firestone, the psychological contract with managers and employees was characterized by one former executive as: 'Simple and widely understood—if you did nothing wrong, you had a job for life.' A modest percentage of managers' total compensation—typically 5–8 per cent—was linked to performance through a bonus, and stock ownership was limited to the officers of the company who sat on the executive committee.²

Performance goals are another important component of an organization's structural context. The behavioral theory of the firm (Cyert and March 1963) posits that managers establish performance goals that specify the relevant metrics and set aspiration levels for future performance against chosen metrics.³ Goals represent an important component of context because a gap between an organization's aspiration and current performance will stimulate a search for initiatives to close this gap, and the choice of performance metric will guide the search. Firestone's executives, who focused on revenue growth as the principle performance metric throughout the 1960s, invested heavily to keep pace with increasing demand for tires. Between 1960 and 1970, the company built five new tire factories, erected four new dedicated component plants, and acquired or built over 500 company retail stores

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(*Internal Financial Reports, 1960–70*). Revenue growth, rather than shareholder returns or profits, was the primary performance metric discussed by the chairman in his speech to stockholders each year that decade. He concluded the 1960s with a forecast of future growth: ‘We are confident that the progress made in all areas of our operations during the past year and decade has given us a solid foundation for growth. As we enter the new decade, we believe our company is on the threshold of one of the greatest growth periods in our history’ (annual report, 1969: 3).

Powerful Customers Radial tires were not a disruptive technology because they served the same set of customers and represented a material improvement over existing technology (Christensen and Bower 1996). Consistent with resource-dependence theory, however, Firestone’s resource allocation process was clearly shaped by its relationship with powerful customers, in this case automobile manufacturers. Automobile manufacturers accounted for approximately 25 per cent of Firestone’s unit sales throughout the 1960s and early 1970s.

Although Firestone initially introduced the belted-bias tire to prevent radial adoption, the company rapidly invested in radials when the automobile manufacturers demanded them in 1972. Firestone made this investment despite the low projected returns on the proposals. Firestone had lost money selling tires to OEMs on an operating profit basis (i.e. prior to deducting corporate overhead) for four of the five years preceding their initial investment in radial production (*Internal Financial Reports, 1968–72*).

Organizational Competence Radial tires represented a competency-destroying technology (Tushman and Anderson 1986) because they required a significantly higher level of precision in the tire assembly process (Dick 1980). Firestone’s existing competencies shaped its response in two ways. First, Firestone responded to the radial tire with the belted-bias tire, which leveraged its existing manufacturing capabilities. Belted-bias tires could be manufactured with minor modifications of existing production equipment, and Firestone made only minor increases in its capital spending in tires in 1968 and 1969 to retool its factories to accommodate belted-bias production. Second, Firestone managers also initially decided to manufacture radials using modified bias tire equipment. This decision allowed Firestone rapidly to ramp up its radial production capacity to narrow the gap with Michelin and meet automakers’ requirements, but also may have contributed to subsequent quality problems (Love and Giffels 1998).

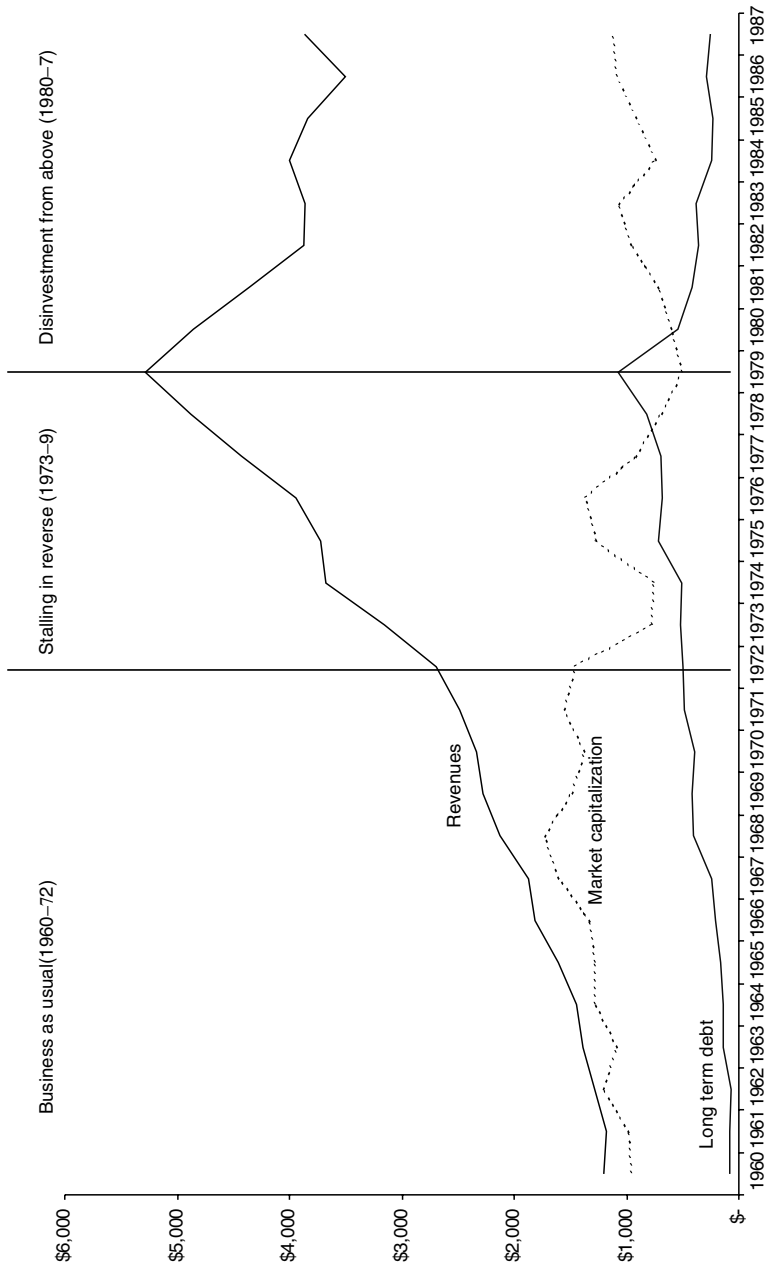
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Providers of Capital Between 1960 and 1972, capital providers played a limited role in Firestone's resource allocation process, because Firestone funded most of its investment with internally generated funds. Even in the years 1970–2, as Firestone executives began investing in radial tire production, the net operating profit after taxes and internal cash reserves funded over 90 per cent of investment in the business (i.e. capital expenditure in excess of depreciation, increase in working capital) and financing expenses such as dividends, stock repurchases, interest, and principal repayment (*Internal Financial Reports, 1960–72*). Firestone increased its long-term debt by only \$89 million over this period. At the end of 1972, debt constituted 30 per cent of Firestone's combined long-term debt and market capitalization (see Fig. 7.2).

Stalling in Reverse: Failure of Resource Allocation Process to Disinvest (1973–1979)

Radial tire adoption decreased demand for the bias and belted-bias tires they replaced. Between 1973 and 1979, unit shipments of bias tires decreased a compound average of 11.6 per cent per year. By 1979, industry average capacity utilization fell from an estimated 77 per cent in 1973 to 60 per cent. US manufacturers cut prices to gain market share of the declining market and thereby improve capacity utilization. Between 1973 and 1979, the resulting price competition depressed the median price (in real dollars) of bias and belted-bias tires approximately 50 per cent (National Tire Dealer and Retreader Association, various years). The combination of declining demand, low capacity utilization, and falling prices drove the per-unit profit to zero or even less (board minutes, 13 March 1980). Like its competitors, Firestone had capacity in excess of its demand for nonradial tires. Firestone's resource allocation process failed, however, to close unneeded bias tire factories. Firestone had thirteen nonradial factories in the United States in 1973 and had closed only one of them by the end of 1979. Goodyear, in contrast, closed four of its thirteen US nonradial plants over the same period.

Resource Allocation Process Firestone's resource allocation process failed to produce necessary disinvestment in part because proposals to close plants did not emerge from the existing bottom-up resource allocation process. Frontline employees and middle managers knew their factories were underutilized but had little incentive to propose closing their operations because it would jeopardize their job security.



Note: Long-term debt includes commercial paper in Firestone's Credit subsidiary and not consolidated for years 1978 (\$138 million) and 1979 (\$401 million).

Figure 7.2 Firestone revenues, market capitalization, and long-term debt by era, 1960-1987 (\$m)

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One senior Firestone executive recalled that employees would not propose disinvestment because they thought: 'It's my wife and kids that need my income . . . so we didn't have situations where someone in the Decatur plant volunteered to be shut down because it was good for the company.' Instead, employees in money-losing factories consistently requested additional investments to restore their factories to profitability (executive committee minutes, various dates, 1973–9). In the absence of bottom-up definition or support for plant closure proposals, the burden for proposing and implementing disinvestment fell on Firestone's top executives whose job security was not threatened by the closure of individual plants. Firestone's top executives, however, failed to take the initiative in closing unneeded capacity.

Strategic and Structural Context Top executives' reluctance stemmed in part from a desire to honor the psychological contract to protect employees' job security. Most research on psychological contracts to date has analyzed their effect on employees' expectations (Robinson, Kraatz, and Rousseau 1994; Rousseau 1995; Robinson 1996). Psychological contracts, however, also can create a sense of obligation to honor those expectations on the part of the organizational agents who make them (Rousseau 1995: 24–6). One executive observed that Firestone's CEO, Richard Riley, 'would linger and linger, trying to hold on to his people. A CEO who rose through the ranks and played golf with the employees for years is naturally going to try hard to protect them and their jobs.'⁴ Riley explicitly referred to employees as part of the 'Firestone family' and stated in the 1974 shareholders' meeting that: 'For close to 75 years, the Firestone Tire and Rubber Company has been able to successfully manage its business in good times and bad for the benefit of its stakeholders, its employees, and its customers, and we expect to continue to do so' (remarks, 18 January 1975: 15).

From 1973 to 1979, there was no change in Firestone's strategic context. No discussion of exiting the tire business was recorded in the transcripts of the board or executive committee meetings, nor did respondents recall any such discussions.⁵ Firestone executives also continued to focus on revenue growth. Riley cited sales growth as the company's primary objective in six of his seven addresses as CEO (1978–9). The continued emphasis on revenue growth induced a series of investment proposals to increase sales, including entering new segments such as heavy truck tires, increasing new product development, and diversifying into related businesses (board minutes, 21 February 1978). Few of these investments provided the anticipated growth, and almost none earned an adequate return. The president of

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Firestone's North American Tire Operations (NATO) expressed his frustration in a 1979 executive committee meeting when he noted: '[We are] not spending enough money to keep the domestic tire business healthy, and yet [I have] difficulty in promising a satisfactory rate of return on the money actually being spent because of the adverse nature of the market.'

Providers of Capital Failure to disinvest produced a severe deterioration in Firestone's financial position. Between 1973 and 1979, Firestone's stock declined an average of 13.9 per cent per year vs. an annual average decline of 9.2 per cent for the tire industry as a whole and 1.3 per cent decline for the S&P Index. Firestone issued debt to finance the operating losses and investments in radial capacity, and bond rating agencies downgraded Firestone's bonds and commercial paper four times between 1977 and 1979 (see Fig. 7.2). As banks refused to make loans to Firestone, management resorted to off-balance-sheet funding, including \$400 million of short-term commercial paper used to finance capital spending and cover losses.

Investors and lenders had strong incentives to improve Firestone's financial performance and worked through the company's board of directors to pressure top executives for change. Throughout the 1960s, Firestone's board consisted exclusively of corporate executives and family representatives, some of whom were also corporate executives. The Firestone family as a whole controlled approximately one-third of the company's stock. The first outside director, Willard Butcher, joined the board in 1972 and was joined by a second outside director one year later (see Fig. 7.3).⁶ Family representatives on the board dropped from five members in 1970 to three by 1973. Between 1973 and 1976, inside managers (5–6 seats) equaled or exceeded the number of seats held by outsiders and family representatives combined.

Willard Butcher, the president of Firestone's lead bank Chase Manhattan, was the most vocal board member in pressuring executives for change. In 1976, he proposed that the company hire an outside CFO. The new CFO outlined the severity of Firestone's financial position in a series of board meetings, but failed to secure agreement with the rest of the top management team on a long-term financial plan (board minutes, 25 May 1976; 16 November 1976; 21 August 1979). Butcher repeatedly urged Firestone executives to reduce bias capacity to improve the company's profitability. He requested plant-level profit and loss statements to identify which plants were losing money and repeatedly recommended that Firestone executives close plants to improve utilization and boost profits (board minutes, various dates 1977–9). He

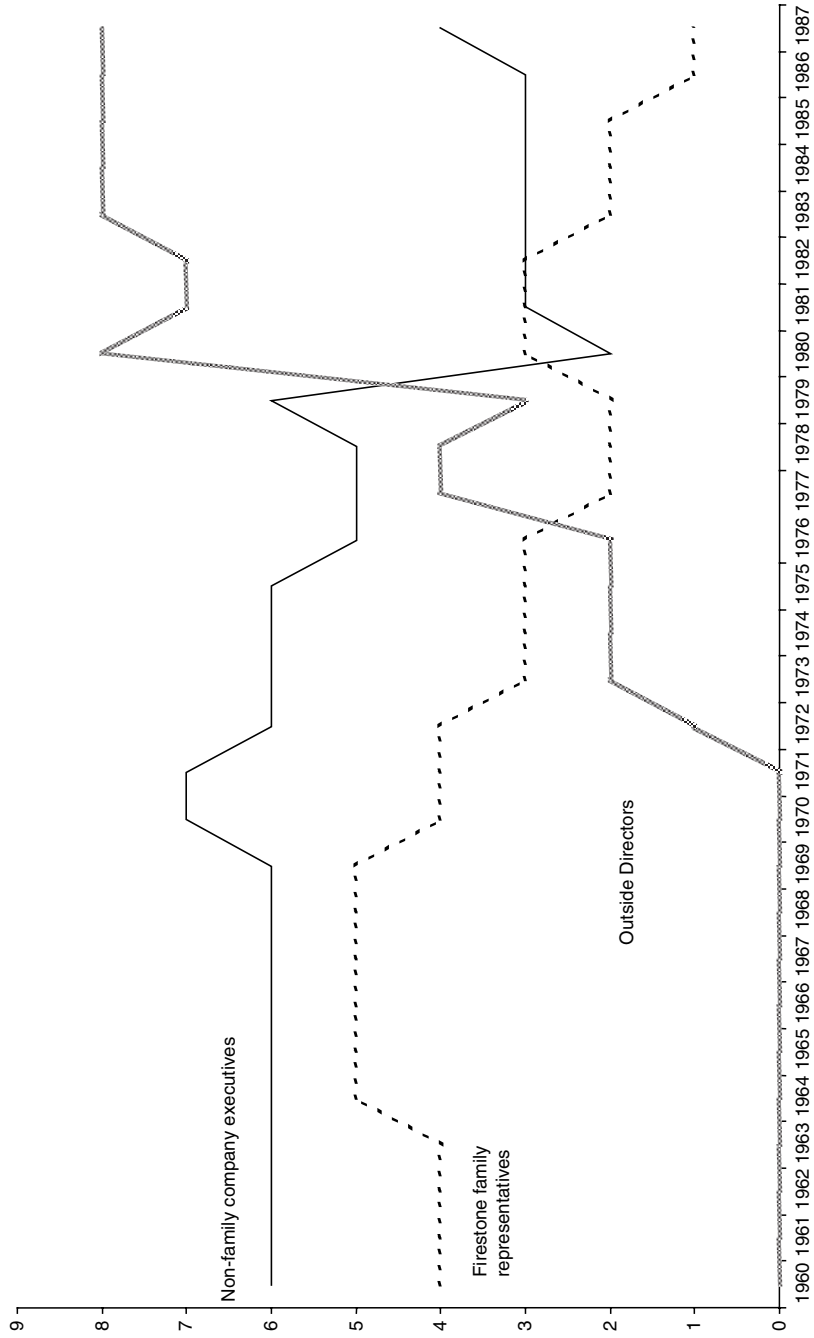


Figure 7.3 Composition of Firestone's board of directors, 1960–1987

argued in a March 1978 board meeting, for example, that: ‘The investment made in North America in the last few years meant that the radial tire had been given to the motoring public for nothing, because the old bias tire capacity was still in place and the radial tire capacity had been added at enormous expense to it.’

Firestone’s top executives resisted board pressure to reduce capacity. Executive board members stalled in providing the directors with plant-level financial data, prompting one director to observe that sixteen months had elapsed since the initial request for data (board minutes, 16 October 1979). In 1977, the outside board members and family representatives invited the chairman of Borg-Warner and one of his colleagues to join the board, bringing the total number of outside board members to four. The following year, the outside board members proposed a merger between Firestone and Borg-Warner, in which the merged entity would be run by Borg-Warner executives. The merger failed after Firestone’s CEO increased the consideration for Firestone stock and then halted negotiations when Borg-Warner refused to accept the higher implied valuation (board minutes, 20 April 1979).

Organizational Competence One possible explanation for delays in plant closure may have been executives’ desire to preserve critical competencies (Tushman and Anderson 1986; Burgelman 1994). This was not the case, however, in the transition from bias to radial tires. The patent on the radial product designs expired in 1967, so Firestone and other domestic competitors were able to replicate the product design. Michelin, however, had invested heavily in process improvements to maintain their lead. ‘Anybody can make a radial tire,’ one Michelin executive noted, ‘but to make 100 of them of uniform quality is our secret’ (Harkelroad 1978: 2). Successfully manufacturing radial tires required greater accuracy and consistency in the production process. Thus, radial tire production required unlearning existing manufacturing processes and replacing them with new, more demanding routines. To achieve changes in manufacturing competencies, Firestone managers negotiated reductions in job classifications and changes in work rules in the factories that were converted to radial production (Jeszeck 1986; United Rubber Workers 1988).

Powerful Customers Automobile manufacturers exerted pressure to invest in radials but did not exert a similar pressure to disinvest from bias capacity. Other important customers, such as mass retailers (including Sears and J. C. Penney) that continued to sell some bias tires,

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had incentives to encourage manufacturers to continue production because industry-level manufacturing overcapacity allowed retailers to negotiate more favorable prices (National Tire Dealer and Retreaders Association, various years).

Top-down Disinvestment (1979–1988)

Firestone's financial performance continued to deteriorate. In December 1979, the board appointed John Nevin as the first outside president in Firestone's seventy-nine-year history. In his first two years with the company, Nevin closed six North American tire factories and eight tire component factories, dramatically reduced the breadth of Firestone's product portfolio, and cut total headcount by nearly 25 per cent (see Table 7.3). These disinvestments initially improved financial performance. Long- and short-term debt fell from 72 per cent of entity value at the end of 1979 to 43 per cent two years later, and average annual returns to shareholders (including dividends and stock buy-backs) of 41 per cent outpaced the 32 per cent increase for the tire industry and 14 per cent for the S&P Index. After the initial restructuring period, however, Firestone executives were unable to achieve revenue growth targets or maintain margins. Between 1982 and 1987, Firestone's average annual returns to shareholders were 9.3 per cent, lower than both the tire industry as a whole of 15.9 per cent and the S&P Index of 15.1 per cent. Firestone was the target of two unsolicited takeover bids in 1982 and in 1988 was acquired by Japanese tire manufacturer Bridgestone.

Providers of Capital In contrast to investment decisions, which originated with customers and emerged through Firestone's bottom-up resource allocation process, pressure for disinvestment came from investors and banks and was channeled through a top-down process. In 1979, representatives of the Firestone family and the company's banks orchestrated the early retirement of president and heir-apparent to the CEO and initiated a search for an outsider. The three outside board members subsequently formed a search committee chaired by Chase-Manhattan Chairman Butcher. The committee nominated John Nevin—the former CEO of Zenith—and the board voted to elevate Nevin to the CEO position six months after he joined as president. Nevin had spent seventeen years in the finance department at Ford before assuming the presidency at Zenith, where he closed factories and laid off 5,500 employees in response to industry overcapacity.

Table 7.3 Measures of Firestone's investment and disinvestment 1960-1987

	1960-72	1973-9	1980-1	1981-7
Increase/(decrease) in North American tire manufacturing plants	7	1	(6)	(4)
Total tire plants at end of period	19	20	14	10
Increase/(decrease) in world-wide tire component facilities	5	1	(8)	(3)
Total component facilities at end of period	23	24	16	13
Increase/(decrease) in North American controlled tire dealers	513	0	(287)	447
Total Firestone controlled dealers at end of period	1,400	1,400	1,113	1,560
Increase/(decrease) in number of tire SKUs	2,700	1,128	(5,228)	(1,150)
Total tire SKUs at end of period	6,700	7,828	2,600	1,450
Increase/(decrease) in number of employees	46	2	(34)	(19)
Total Firestone employees at end of period	105	107	73	54

Note: Tire components include tire textiles, wire, synthetic rubber, and natural rubber.

Source: Firestone Annual reports; internal financial documents.

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Between May and December 1979, the board also nominated or appointed four outside directors, which meant that outsiders would constitute a majority on the board beginning in 1980 for the first time in the company's history (see Fig. 7.3).

Investors and bankers also supported the new president in his efforts to improve profitability. Three months after joining the company, Nevin proposed closing six of the company's twenty North American tire factories as well as a synthetic rubber facility. Firestone executives at the board meeting opposed the proposal, but vigorous support from Butcher and Leonard Firestone (who represented the Firestone family's investment) persuaded the board to adopt Nevin's proposal (board minutes, 18 March 1980). Nevin later recalled that meeting:

When I started to read the letter to the board on shutting down the six tire plants . . . I was very conscious of the fact that I was a 45-day wonder asking these guys to take responsibility and approve a massive cutback . . . The second paragraph said 'the actions will generate \$600 million in cash through the liquidation of the business and lead to a commensurate reduction in debt.' . . . - Bill Butcher interrupted me after I read that and said 'John, if that's the only damn thing it does, I am 100% for it—you've got to deal with that debt problem, and I'm glad you're facing it.'

Resource Allocation Process In defining his plan to restructure Firestone, Nevin did not rely on information that emerged through the existing bottom-up resource allocation process, because middle managers and frontline employees were 'often less than forthcoming with data', in the words of a manager hired by Nevin. Instead, Nevin assembled a team of six staff executives who reported directly to him and helped him gather and analyze information. Nevin prohibited these managers from discussing their work with any other staff or operating executives and relied instead on an outside management consulting firm to assist in collecting industry data. The director of the consulting engagement recalled: 'You could almost determine the need to restructure on the back of an envelope—at a general level it was pretty simple to figure out that the company had overcapacity and which plants were worst.' In his first few months as president, Nevin himself met with the company's top 100 middle managers; over 100 field sales executives; more than 200 dealers and store managers; and representatives from Ford, General Motors, and Chrysler. Nevin wrote a twelve-page memorandum (with twenty-two supporting exhibits) entitled 'North America Tire Restructuring' that laid out his disinvestment proposal. He presented it directly to the board without

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consulting the executive committee or operating managers beforehand. Lee Brodeur, then the president of NATO, recalled: 'We were shocked—he made one big move and bango, we closed those plants.'

After circumventing Firestone's bottom-up resource allocation process to implement his initial disinvestment plan, Nevin subsequently replaced it with a top-down process. Eight months after joining Firestone, Nevin proposed a plan to restructure the executive committee. The proposed amendments to the by-laws mandated that three of the six members of the executive committee be outside directors, and that the committee meet less frequently to accommodate directors' schedules (board minutes, 19 August 1980). The board approved the proposals. Nevin subsequently consolidated the control of resource allocation into his own hands. In February 1981, he assumed the chair of the executive committee and decreased its membership to himself, one other Firestone executive, and three outside board members (board minutes, 28 February 1981). Nevin later recalled that he gathered data himself to evaluate proposals for capital investments independently rather than relying on data generated through the bottom-up process. All Firestone executives agreed that Nevin personally made decisions on capital investment and unilaterally sent back requests for capital if he was dissatisfied with the underlying assumptions or analyses. For example, Nevin decided which of Firestone's nontire divisions would be sold without consulting other managers in the business. 'Decisions were made and Nevin handed them down,' recalled Brodeur. 'I remember time and time again in staff meetings that he would have with key managers, he would completely dominate and control us.'

Organizational Competence The top-down resource allocation process imposed by Nevin sheds some light on Firestone's inability to grow revenues between 1982 and 1987. The top-down process failed to capture the specific knowledge possessed by long-time managers lower in the organization about the competencies that could provide future growth. Nevin decided to sell Firestone's steel wheels, foam rubber, and plastics businesses over the strong objections of long-time executives familiar with their operations. These businesses earned an average annual return on equity of 15–50 per cent, were first or second in their respective domestic markets based on superior technology, and offered significant revenue growth potential (internal financial reports, various years). Although these nontire divisions accounted for only 20 per cent of Firestone's revenue through the late 1970s, they contributed between 55 and 70 per cent of operating profits and an even higher percentage of cash flow.

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Strategic and Structural Context Nevin shifted Firestone's structural context to institutionalize capital market pressure throughout the organization. He replaced the company's psychological contract, stressing employment guarantees with compensation packages that rewarded financial performance and stock appreciation. Senior executives and middle managers received stock options and performance-based bonuses, which could reach 25–50 per cent of their base salary if managers met or exceeded their budget. Nevin later explained his rationale: 'Philosophically, I believed very deeply that executives should be rewarded in some direct relationship to shareholder value... So I used stock options very extensively and very low in the organization.' Nevin emphasized strengthening the balance sheet and restoring NATO to profitability rather than growth in revenues as the key metrics of success. Nevin restructured the finance department to obtain better data and instill discipline in the investment process. He replaced nearly the entire department with executives hired from outside the company and replaced the CFO three times in as many years until he found one whom he considered sufficiently aggressive in instilling financial discipline throughout the organization.

The consolidation of the resource allocation process in one person left Firestone's resource allocation process vulnerable to the cognitive frames of the individual setting the strategic context. Nevin maintained the company's strategic focus on the tire industry, but believed strongly that Firestone-owned retail outlets provided an opportunity for profitable growth. Nevin apparently developed this frame based on his experience at Zenith before joining Firestone. Two months after joining the company, he told stockholders: 'I concluded long ago that a first-rate retailing organization is an absolute requisite for the success of any consumer product manufacturer' (remarks to stockholders, 9 February 1980: 2). After pruning 287 unprofitable retailers between 1980 and 1981, Firestone subsequently proceeded to acquire an additional 322 stores and build 125 new outlets in the following years. One senior executive reported: 'John loved the stores... he was completely irrational on the subject'—an observation that was echoed by other observers. Several managers at the time argued against the investment in retail operations, citing the division's historically low returns despite favorable transfer prices. Firestone's large investment in retail operations failed to earn an acceptable return. In 1981, Nevin forecast earnings of \$147 million from the retail stores for the year 1985. Actual earnings were \$18 million.

Conclusion and Discussion

Limitations

In-depth clinical research on a single company can generate grounded theory with a high level of internal validity (Campbell and Stanley 1963; Eisenhardt 1989*b*). Such research suffers, however, from limited external validity—i.e. the researcher's ability to generalize findings beyond the immediate case study. Yin (1989: 43–4) distinguishes between *analytical generalization* (in which a researcher generalizes from a specific set of results to a broader theory) and *statistical generalization* (in which the researcher generalizes from a sample to a larger population). In this chapter, my primary focus is analytical generalization, and implications for selected theoretical streams are discussed below. The findings from the study, however, also provide opportunities for statistical generalization by testing hypotheses derived from the process model on a large sample. Researchers could, for example, test the hypothesis that higher levels of dependence on capital markets for financing (as measured by interest coverage, for example, or a higher percentage of outside directors) would increase the speed of disinvestment.

Implications for Strategy Process Research: Role of Top Management

The Firestone case demonstrates that the bottom-up resource allocation process can stall in reverse—i.e. when faced with the need for disinvestment. Frontline employees and middle managers closest to the existing bias factories lacked incentives to propose disinvestment. Plant closures would jeopardize their own job security and that of colleagues and subordinates, and, in many cases, have a material adverse effect on host communities. Proposals for disinvestment in this case were optimal for the organization but ran counter to the employees' interests (Jensen 1993). Disinvestment proposals also may be delayed because managers wish to avoid the perception that their early actions were mistaken, leading them to escalate their commitment (Brockner 1992; Ross and Staw 1993).

An important assumption of most models of bottom-up strategic processes is that top executives play a relatively limited role (Bower 1970; Quinn 1980; Burgelman 1983*c*, 1991, 1994; Noda and Bower

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1996), although recent research has posited a more active role for top management (Eisenmann and Bower 2000; Eisenmann 2002; Lovas and Ghoshal 2000). Top executives, according to these models, rarely intervene directly in the resource allocation process, but rather shape the process indirectly by manipulating the organizational context, often retrospectively, after major shifts have already occurred. Top executives can frame the strategic context for the organization as a whole (Lovas and Ghoshal 2000) or for specific new initiatives (Noda and Bower 1996). They also manage the tension between autonomous initiatives and the established strategic context, sometimes 'retroactively rationalizing' projects that emerged outside the official strategy or dissolving the organization's existing strategic frame altogether (Burgelman 1994, 1996). Top executives also can shape an organization's structural context through actions such as the organization of tasks (Chakravarthy and Doz 1992; Lovas and Ghoshal 2000) and performance metrics and compensation (Bower 1970: 266; Noda and Bower 1996). Top executives' ability to exert even indirect influence on strategic processes by manipulating context is limited, however, by structural inertia (Hannan and Freeman 1984) and path-dependence resulting from previous decisions (Noda and Bower 1996).

The findings from this study, however, document a CEO who exerted direct influence on the resource allocation process. After initially circumventing the bottom-up process, Nevin subsequently dismantled it and replaced it with a top-down process in which he personally gathered information and made investment and disinvestment decisions. Nevin also influenced the structural context by resetting aspirations, changing compensation, and hiring outside employees to complement his direct intervention in the process. These findings, which are at odds with the existing literature, raise two related questions: why might a top-down process be required for disinvestments and what are the limitations of such a process?

Disinvestment decisions differ from investments in three ways, and these differences shed light on why a top-down process might be appropriate for disinvestment. First, front-line employees and middle managers often lack incentives to promote disinvestment to the extent such actions would limit their job security, promotion opportunities, and reputation. Thus, a bottom-up process is prone to failure in promoting disinvestment. Second, a top-down process is well suited to disinvestment because these decisions require more general than specific knowledge. Jensen and Meckling (1992) distinguish between specific knowledge (difficult to codify and costly to transfer) and

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general knowledge (easily codified and transferred) and argue that decision rights should be colocated with the knowledge required to make the best decision. Many investment decisions require specific knowledge of a complex set of technical, customer, and competitive factors and should, as a result, be optimally decentralized. Disinvestment decisions, in contrast, may be made with general knowledge that can be assembled and analyzed more easily by top executives. In the Firestone case, Nevin was able to decide that disinvestment was necessary and identify the best operations to close based on a 'back-of-the-envelope' analysis. The need for disinvestment was more obvious in the Firestone case than typically might be the case, because it was not complicated by uncertainty around future demand or the need to preserve existing competencies (Burgelman 1996). Although the Firestone case is extreme, it is by no means an isolated example of delayed disinvestment in the face of a relatively clear imperative for exit (Baden-Fuller and Longley 1988; Deily 1991; Grant 1990; Jensen 1993; Dial and Murphy 1995).

The third way disinvestment differs from investment is in the level of 'buy-in' required by frontline employees and middle managers to implement these decisions. The ultimate success of a new strategic initiative (e.g. internal corporate venture, new product or service) depends to a large extent on the level of effort exerted by the frontline employees and middle managers charged with implementing the decision. Thus, the allocation of financial capital is a necessary but not sufficient condition for the initiative's success. Employees also must allocate their focus and effort to these new initiatives, and these commitment decisions are by their nature highly decentralized. Thus, a bottom-up strategic process would not only serve to colocate decision rights on capital investments with specific knowledge, but also colocate employees' and middle managers' allocation of their focus and effort. Disinvestment, in contrast, requires limited commitment from employees. Differences in incentives, specificity of knowledge, and level of buy-in required, in summary, suggest that a bottom-up process may be optimal for investment decisions, whereas a top-down process may be more appropriate for disinvestment.

The difference between investment and disinvestment decisions poses a serious challenge for organizations that must make both. Lovas and Ghoshal (2000) document a project-based organization in which employees at various levels in the organization could select which initiatives they would work on and also decide whether to withdraw their support, thereby ending a project. Although this structural context is well suited to project-based activities with limited

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duration (such as new product development efforts), it is less feasible for routinized activities such as logistics, manufacturing, or service provision. In some circumstances, it may be optimal to impose a top-down resource allocation process for a period to drive disinvestment and return to a bottom-up process to pursue new growth opportunities after necessary disinvestment is complete.⁷ According to this logic, Firestone's failure to achieve growth and profitability targets after the initial restructuring may have resulted from Nevin's maintaining the top-down process beyond the optimal point to revert to a bottom-up one. The costs of switching from a bottom-up process to a top-down one and back again suggest that it may be optimal to concentrate disinvestment decisions in time, which would lead to a pattern of long periods of growth punctuated by brief episodes of disinvestment (Tushman and Romanelli 1985).

Role of Capital Providers in the Resource Allocation Process Early models of strategy process focused primarily on the intra-organizational dynamics, but recent research has expanded the scope of enquiry to examine how external forces influence the intra-organizational strategy processes. The research to date has focused primarily on product market influences (Mintzberg 1978; Pascale 1984; Mintzberg and McHugh 1985; Mintzberg and Waters 1985; Christensen and Bower 1996; Burgelman 2002). The Firestone case demonstrates, however, that powerful investors and lenders also can influence the resource allocation process. Owners and lenders have clear incentives to influence a company's strategic decisions if they believe delays in disinvestment will destroy shareholder value or increase the default risk of outstanding debt. They also will possess the necessary information to the extent that the need for disinvestment can be inferred from general knowledge that is publicly available or presented to board members (e.g. corporate financial reports, industry capacity utilization). Investors and lenders cannot, of course, directly intervene in intra-firm processes. They can, however, influence the timing of top executive turnover as well as the choice of new CEO selected (Furtado and Karan 1990). In the Firestone case, representatives of the Firestone family and lead bank exerted their influence through the executive selection process in the board of directors, but providers of capital also can precipitate a change of management by supporting a takeover bid.

Executives also can incorporate capital market pressure into a firm's context. After joining Firestone, Nevin took a series of steps to institutionalize capital market pressure in the company's decision making. He articulated a new set of financial goals, increased the use of

incentives linked to corporate financial performance, and changed the role and increased the power of Firestone's finance function. These actions, along with his consolidation of resource allocation into his own hands, had the effect of dramatically increasing the importance of capital providers' preferences in investment and disinvestment decisions. Nevin's actions to incorporate the capital providers' interests in Firestone's resource allocation process, however, highlights that top executives can exercise some discretion in intensifying or buffering intra-organizational processes from capital market pressure.

At the extreme, executives can voluntarily enter into relationships with investors or lenders that will sharply constrain future managerial discretion on allocating resources. Top executives can, for example, assume a high burden of debt or enter into highly restrictive debt covenants that cap future levels of capital spending or require bank approval for major acquisitions (Baker and Wruck 1989; Wruck 1994). A manager's ability voluntarily to enter into binding relationships with capital providers has an interesting implication for resource-dependence theory. Pfeffer and Salancik (1978) argue that managers make decisions that satisfy the needs of external stakeholders who provide the resources necessary for organizational survival. This theory assumes the preexistence of resource-dependency relationships. These relationships do not, however, arise *ex nihilo*. Rather, they are the result of earlier actions that brought the organization into the position of resource dependence in the first place. Of course, few organizations can avoid resource dependency altogether, nor can executives foresee all the consequences of their decision to bind their organization to a powerful resource provider. Executives can, however, exercise some discretion when entering into these relationships. The process by which managers evaluate alternative resource providers and decide whether and when to enter into resource-dependence relationships is an interesting topic for further research.

Investors' and lenders' influence on intra-organizational resource allocation processes is not limited to disinvestment decisions within established firms. If anything, providers of capital may exert more influence on the investment decisions of start-up ventures. Entrepreneurs often lack the financial resources necessary to pursue an opportunity and therefore tap outside parties such as angel investors, venture capitalists, or corporate partners for funding (Stevenson and Jarillo 1990). These capital providers may require terms such as board seats or veto rights on investments that allow them actively to intervene in the new venture's resource allocation process. Their influence may be functional or dysfunctional. Seasoned investors might, for example,

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provide a valuable perspective on the value-creation potential of opportunities. On the other hand, investors may impose inappropriate biases on the process. Many Silicon Valley venture capitalists, for example, shared an assumption that Internet start-ups would need to get big fast to succeed, an assumption that may have contributed to investments in advertising that were higher than optimal (Eisenmann 2003). The role of investors and lenders in the intra-organizational resource allocation process represents an exciting opportunity for future research.

Implications for Evolutionary Theory

Toward a More Active View of Inertia In recent years, the population ecology perspective has emerged as an influential stream of research for understanding how groups of organizations change over time (Hannan and Freeman 1989; Carroll 1988). A central tenet of this literature stream is that organizations are characterized by structural inertia that prevents them from changing rapidly enough to adapt when their environment shifts (Hannan and Freeman 1984). The findings from the Firestone study, however, suggest a more nuanced conceptualization of inertia may be more appropriate in describing established organizations' response to disruptions in their environment. Firestone's response to radials cannot be characterized simply as a delayed response to the introduction of radial technology. The company responded rapidly to radials by introducing and promoting a modified version of their core technology and immediately approving investments in radials once their largest customers demanded them. The delay was limited to the disinvestment. I have elsewhere introduced the term *active inertia* to describe an organization's tendency to respond to major shifts in their environment by accelerating activities that proved successful in the past (Sull 2003).

Active inertia is related to constructs such as strategic momentum (Kelly and Amburgey 1991; Amburgey and Miner 1992) and escalating commitment (Ross and Staw 1993; Brockner 1992) that posit organizational persistence in an established trajectory. Active inertia, however, goes further to posit rapid investment in the face of a major shift in the environment. This investment, however, is channeled through the existing resource allocation process and shaped by the organization's existing context, competence, and customer preferences.⁸ Although rapid, there is no guarantee that these investments will be adaptive. In the case of Firestone, the most adaptive response may

well have been to exit the tire business and redeploy the resources in the more profitable and faster growing (albeit smaller) related businesses, and, in fact, this is precisely what Firestone's Akron-based rival B. F. Goodrich did (for reasons that are discussed below). This alternative was essentially unthinkable for Firestone, however, given the strategic assumption that Firestone meant tires, revenue growth was the most important metric of success, employees were entitled to a job for life, and automakers were the most important customers. To generalize beyond the specifics of the Firestone case, research analyzing the micro-processes within organizations can provide important insights that enrich our understanding of how organizations respond to changes in their environment (Burgelman 1994; Christensen and Bower 1996; Gilbert 2002).

Reversing Retention Evolutionary theorists have applied the variation-selection-retention framework to analyze competition for resources within an organization (Burgelman 1991, 1994; Barnett and Burgelman 1996; Lovas and Ghoshal 2000). Much of the research to date, however, has focused on how an organization's context, competence, and customers shape which initiatives will be proposed (i.e. variation) or selected (Burgelman 1991). The process of retention, and particularly of reversing retention, has received relatively less attention. To some extent, the conceptual lens of evolutionary theory draws researchers' attention away from the issue of reversing retention. The underlying assumption is that once a trait is selected and retained, it is permanent and difficult or impossible to change (Campbell 1969; Hannan and Freeman 1989). The question of how organizations might reverse previously retained traits is important both to scholars and practitioners.

This study provides two insights on reversing retention. First, powerful forces prevent disinvestment proposals from emerging from a bottom-up resource allocation process for a simple reason. By proposing exit, the individuals with the best specific knowledge of a project, division, or factory may endanger their job security or reputation for competence (and subsequent ability to secure resources). As a result, employees and managers may instead propose investments to reverse their project or division's fortunes, even if exit were the more adaptive response at the organizational level. It is, of course, possible that an organization's structural context will mitigate this tendency. Burgelman (1994, 1996), for example, documents that Intel shifted resources from fabricating memory chips to microprocessors because the firm's structural context included a rule for allocating fabrication

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plant capacity based on margins generated. This contextual factor resulted in a gradual shift from commodity memory chips to the more profitable microprocessors. This rule took effect, however, only when combined demand for the two types of chip exceeded Intel's fabrication capacity (Burgelman 1994: 43). In cases such as Firestone's, when the need for disinvestment stems from excess capacity and implies closure and layoffs, the probability of process failure is much higher.

The second insight on reversing retention concerns the role of agency in evolutionary theory. Early applications of ecological models in organization theory had a strongly deterministic flavor (Hannan and Freeman 1989), although subsequent research has elaborated the role of managerial discretion within the confines of evolutionary theory (Burgelman 1991, 1994, 2002; March 1991; Lovas and Ghoshal 2000). Earlier research has argued that managers influence internal variation, selection, and retention processes indirectly by manipulating contextual variables (Burgelman 1991, 1994; Noda and Bower 1996; Lovas and Ghoshal 2000). The Firestone case illustrates that managers also can directly intervene in intra-organizational resource allocation processes. This finding is consistent with Gilmour's (1973) study of sales of business units by diversified companies. Gilmour found that in each case he studied, the decision to sell divisions was made and implemented by top managers rather than emerging from a bottom-up process. This is not, of course, to argue that direct intervention is without risks. Recall in the Firestone case how a top-down resource allocation process failed to capture specific knowledge embedded at lower levels in the organization and also left the process susceptible to the cognitive biases of the outside CEO.

The Firestone case does, however, clearly demonstrate that direct intervention is possible and may even be optimal under certain circumstances. A comparison of the disinvestment process in the present study (and Gilmour's) with Burgelman's findings from Intel's exit from memory chips provides interesting insights on the condition under which direct managerial intervention may be appropriate. In the Firestone case, general knowledge (i.e. 'back-of-the-envelope') was sufficient to identify the need for disinvestment, and lower-level managers and employees lacked the incentives to propose disinvestment. At Intel, in contrast, the need for exit was complicated by technological uncertainty and the need to preserve distinctive competence that cut across the memory and microprocessor businesses. To the extent fabrication capacity was shifted from one use to another without loss of job security or damage to reputation, employees had no incentive to oppose this reallocation of resources. This contrast suggests that

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managerial intervention may be necessary when the need for disinvestment is fairly obvious and uncomplicated by the preservation of cross-unit competencies and when employees lack incentives to propose exit. These conditions are more likely to prevail in slower-moving traditional industries such as chemicals, automotive, building materials, hospitals, or commercial banking.

Capital Market Influence The Firestone case illustrates how pressure from capital providers can influence the intraorganizational process of reversing retention. To the extent organizations are dependent on investors and lenders rather than customers for funding, these capital providers potentially can exert an influence on a firm's resource allocation process either directly (e.g. review rights on major investments, caps on expenditures) or indirectly by increasing financial executives' power within the organization and shaping which proposals would be considered acceptable.

Contrasting the Firestone case with that of B. F. Goodrich illustrates how differences in the timing of capital market pressure can influence the speed of reversing retentions. Like Firestone, B. F. Goodrich was an established tire producer (founded in 1870) and headquartered in Akron. Throughout the 1960s, Goodrich executives invested heavily to keep pace with larger rivals Goodyear and Firestone, although the company's smaller size depressed its earnings relative to its larger rivals. As a result, Goodrich was unable to fund its investments out of retained earnings and borrowed heavily (Blackford and Kerr 1996: 267). In the late 1960s, interest payments represented 43 per cent of net income. Goodrich's poor financial performance attracted a hostile takeover bid in January 1969.

Although Goodrich executives successfully defeated the takeover bid, the company's outside directors recognized that dramatic changes were necessary to improve the company's financial performance (Blackford and Kerr 1996: 289-96). In contrast to Firestone, outside directors constituted a majority of the Goodrich board in 1969 and included prominent financiers John L. Weinberg of Goldman Sachs and Paul C. Cabot of the State Street Investment Corp. Goodrich's directors rapidly took actions to improve the company's financial position. In 1970, Goodrich initiated private negotiations with Michelin to merge the two companies' tire operations, although the discussions ended when Michelin insisted on full control of any combined entity (Blackford and Kerr 1996: 278-9). In 1971, the board replaced the incumbent CEO with a financial executive from the oil industry who in turn replaced Goodrich's top management team with outsiders.

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After divesting several businesses, the new CEO applied increased scrutiny to the financial returns earned on investments in the tire business (B. F. Goodrich 1977). Based on this analysis of financial returns, Goodrich executives decided against building a new factory dedicated to radial production, closed a larger percentage of bias factories than the other leading tire companies (and did so two years before its competitors), and ultimately decided to stop providing tires to automobile manufacturers (although these customers accounted for 10 per cent of revenues). These actions allowed B. F. Goodrich to move from the least profitable major US tire company in 1971 to the most profitable in 1981. Five years later, the company merged its tire operations with those of Uniroyal, and subsequently sold its stake in the merged entity.

Reversal of retention in the form of disinvestment took place in Firestone and Goodrich, but the latter began the process nearly a decade before the former. Goodrich's earlier response appears to have resulted from early capital market pressure in the form of a corporate raid, earlier dependence on capital markets for funding, and an outside-led board that included powerful financiers. These cases illustrate the important role powerful providers of capital can play in evolutionary processes within an organization.

Endnotes

1. Several Firestone executives described the process as one of 'rubber stamp' or 'automatic'. (Lee Brodeur, interview with author, tape recording, Akron, Ohio, 11–13 August 1994, and Mario DiFederico, interview with author, tape recording, Akron, Ohio, 10 May 1995.) An analysis of investment proposals supports the executive retrospective accounts. In the late 1960s, the executive committee approved 93 per cent of all proposals considered. There was no evidence that the committee applied greater scrutiny to larger investments, because the mean and median value of the projects approved during this period was more than twice the value of rejected proposals.
2. The top six Firestone officers who constituted the executive committee typically owned between 2,000 and 30,000 shares of common stock during the 1960s and 1970s. The stock price ranged between \$17.50 and \$33.30 (proxy statements, various years).
3. Although strategic context and performance goals are often conflated, they are conceptually distinct. Strategic context specifies the domain in which an organization will compete without elaborating how performance will be measured (e.g. profits, revenue growth). Performance goals, in contrast, can specify aspirations without providing any guidance on how to achieve these goals.

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4. The concern for employees' welfare was manifest in the way Firestone closed the one factory they did shut between 1973 and 1979. An internal study revealed the factory had operating and plant-level overhead costs that were approximately twice that of the average domestic plant, which resulted in consistent losses. To avoid any layoffs, Firestone executives decided to invest capital to reduce costs and then phase out production over several years through a hiring freeze, planned retirements, and transfer of employees to an adjacent factory. The plant continued to lose money throughout this period (board minutes, 21 March 1978: exhibits).
5. From a purely financial perspective, this is somewhat surprising because Firestone's nontire business on average contributed 40 per cent of total corporate operating income over this period while accounting for less than 15 percent of book assets (internal reports, various years).
6. In 1964, the president of the Cleveland Trust Bank joined the Firestone board, and he or his successor in that position occupied a board seat until 1985. Cleveland Trust owned approximately 12 per cent of Firestone's outstanding stock in trust for Firestone family members. The Cleveland Trust representative is thus coded as a family representative rather than outside board member.
7. The reversion to the bottom-up process assumes that at some point the organization will face growth opportunities. If this is not the case (e.g. the proverbial buggy-whip manufacturer), it might be optimal to retain a top-down process to manage the liquidation of the company.
8. Capital providers may or may not influence these investments based on the organization's dependence on external sources of financing for the investments.

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