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ARCHETYPES OF ORGANIZATIONAL SUCCESS AND FAILURE

Denise Fleck

Historical comparative analysis of the high-tech rivals General Electric and Westinghouse over twelve decades suggests that each firm's responses to five organizational challenges affected their chances of enjoying long-term success. Inductive theoretical work advances two polar ideal types of organizational success and failure: the self-perpetuating and the self-destructive archetypes, respectively. These should be seen as extreme states of the existence of firms since, in reality, firms operate in some intermediary state. A process-oriented perspective of theory building advances relations of necessity towards organizational long-term success, and integrates the challenges' responses into a requisites model for the development of organizational self-perpetuation propensity.

The motivation for this study derives from the empirical observation that success seems to breed failure. More often than not, today's widely praised corporate success histories become tomorrow's highly criticized nightmares. The intriguing issue concerning the sustainability of organizational success over the long run has inspired much needed investigation (Scherer, 1990; Kocka, 1990) into *why some positions of industrial dominance are persistently maintained* and *why early success stories so frequently turn into stories of decline and failure*.

The study reported here addresses these questions by examining twelve decades of existence of two centenarian companies: General Electric (GE), a firm that has persistently maintained positions of industrial dominance and high financial performance, and Westinghouse (WH), an early success story that faced decline and disintegration.

Historical analysis has revealed that despite their extraordinary business resemblance throughout their existences GE and WH markedly differed in their responses to five growth-related managerial challenges. Through a process of analytic generalization (Yin, 1989), I have generalized the set of empirical results to a broader theory of organizational long-term success and failure, proposing two ideal organizational types: one archetype of success and one of failure. In addition, I used a process-oriented perspective of theory building (Mohr, 1982) to put forward relations of necessity among constructs, and derived a model of requisites for the development (or preclusion) of organizational long-term success.

THEORETICAL BACKGROUND

Organizational success is a central issue in organizational studies, and growth is often believed to be an adequate indicator of organizational success. As Whetten (1980) remarked, in general, organizational growth is an implicit assumption in research studies, because it is generally assumed that "growth is synonymous with effectiveness", that "bigger is better", and that "there is a positive correlation between size and age" (p. 577). Other definitions of success emphasize the time dimension. For example, according to Miller and Friesen (1978: 923), success is related to "the degree to which the firms are able to achieve their objectives subject to the constraints of long run viability". A related notion is organizational self-perpetuation (Chandler, 1977), i.e. the firm's ability to survive its members. On the other hand, the organizational life cycle perspective predicts that sooner or later, organizations enter the decline phase and face death.

Though much less popular than organizational success (Whetten, 1980), organizational failure has also been referred in the literature in different ways. These include: organizational mortality, organizational death, organizational exit, bankruptcy, decline, retrenchment and downsizing (Mellahi & Wilkinson, 2004). Opposing growth and decline, Whetten (1980) has distinguished two types of decline: 'decline-as-stagnation' referring to suicidal organizations suffering from stagnation and market share reduction, and 'decline-as-cutback' designating organizations that fall victim of a hostile, homicidal environment that undergoes market shrinking. Weitzel and Jonsson (1989) have called into question the validity of both the organizational life cycle and the imperative of the organization's death. These authors view decline as a process that may lead into organizational destruction, and have proposed a model of stages of decline progressing from blinded to inaction, faulty action, crisis, and dissolution. From a temporal perspective, Meyer and Zucker (1989) have coined the term 'permanently failing organizations' to designate those entities that combine persistence of existence with persistently poor performance.

In line with Weitzel and Jonsson (1989), this paper defines organizational failure as the final state of a decline process, i.e. the state of organizational dissolution. On the other hand, organizational success is not a final, but a potential state that can be approached as long as the organization nurtures a propensity to self-perpetuate (Chandler, 1977). *Self-perpetuation* has to do with the organization's capacity to outlive its members. Much like the growth process (Penrose, 1980), *the self-perpetuation process does not take place automatically*. It requires the setting up of contributing mechanisms, such as managerial

hierarchy formation (Chandler, 1977, 1990). The setting up of mechanisms implies *purposeful actions taken by organizational stakeholders interested in the continued existence of the firm*. In addition, a dynamic worldview of firms and environment suggests that *self-perpetuation should not be seen as a stable or final state*. Rather, organizations are likely to experience a dynamic process whereby the propensity to self-perpetuate may be developed, enhanced, reduced or even precluded.

According to Chandler (1977), the self-perpetuating capability of the modern enterprise is the outcome of two concomitant processes: *continuing growth*, whereby growth brings about new opportunities for expansion and renewal; and *continued existence*, a process that has to do with the organization's ability to preserve its integrity and avoid becoming an expendable tool (Selznick, 1957).

Continuing Growth

Chandler's continuing growth notion (1977) is in line with Penrose's work (1980; first edition in 1959), which states that underutilized resources constitute internal inducements to continuing growth. Both authors describe a renewal mechanism, whereby to make efficient use of underutilized resources, new types of resources are generally acquired. While Chandler distinguishes growth motivations, Penrose refers to enterprising services.

Chandler advances two types of *motives* guiding expansion decisions: *productive* and *defensive*. While productive motives *promote change*, defensive ones *control change*. Productive expansion increases "productivity by lowering unit costs" (p. 487). Defensive expansion seeks security and aims "to prevent sources of supplies or outlets for goods and services from being cut off or to limit entry of new competitors into the trade" (p. 486). In Chandler's analysis, defensive expansion rarely increased productivity. Productive expansion, on the other hand, "was inherently more profitable than defensive expansion, and so set the direction in which the enterprise grew" (p. 489). As long as the expansion produces idle and/or transferable resources, in order words, as long as expansion produces slack, growth contains the seeds of further growth.

Penrose maintains that *enterprise* includes the willingness not only to take risks but also to search for ways of avoiding risk and still expand. In her view, enterprising management and ambition to make profits are necessary conditions for continued growth, and the management of growth requires two kinds of services: *entrepreneurial services* to take

advantage of new possible avenues for profitable expansion, and *managerial services* to coordinate the use of resources profitably. Entrepreneurial services include *entrepreneurial versatility* (imagination and vision), *fund-raising ingenuity*, *entrepreneurial judgment* (in the absence of which the firm will tend to consistently make mistakes, over-estimate what it can do, guess wrongly the future course of events) and *entrepreneurial ambition*. Managerial services involve the development of interpersonal relations that take time to evolve in order for a newly hired to become fully productive. As a result, human resources cannot be purchased just-in-time like commodities, and management availability is, for Penrose, the most constraining element to firm growth.

Continued Existence

In line with Penrose (1980), Chandler (1977) argues that the setting up and nurturing of a pool of managerial resources was essential for the successful growth of the modern firm because the managerial hierarchy provided the modern firm with the *seeds of continued existence*. It had a *regenerating capability*, which enabled the firm to outlive its members because "when a manager died, retired, was promoted, or left an office, another was ready and trained to take his place" (Chandler, 1977:8). Another seed of continued existence was the pursuit of a lifetime career by managers. As Chandler asserts, "for salaried managers the continuing existence of their enterprises was essential to their lifetime careers." (p. 10) Long-term commitment of managers combined with long-term investments were important requirements for the continued existence of the firm.

Sustaining a continued existence involves handling challenges that threaten the organization's survival. In Barnard's view (1938), few organizations survive among innumerable failures because successful cooperation in organizations is the abnormal condition. The norm in human history, according to him, is failure of cooperation, disorganization, disintegration and destruction of organization. In line with Barnard, Selznick (1957) asserts that organizational rivalry may be the most important, perennial problem in organizational life because it threatens the unity of the larger enterprise. Poor cooperation and ill-managed rivalry may cause the organization's dismantling and disappearance. In sum, large, diversified firms require that management focus not only on developing the businesses' competitive advantage, but also on making the whole more valuable than the sum of its parts (Porter, 1987), and on preventing the firm from breaking apart. According to Selznick (1957) the self-preservation of an institution goes beyond survival. It requires the preservation of organizational integrity.

RESEARCH METHOD

The longitudinal investigation on which this paper is based closely fits type 4 studies in Miller and Friesen's (1982) typology of longitudinal research. Miller and Friesen define type 4 studies as those that describe scenarios of evolution of multiple organizations, use detailed information to justify conclusions, provide non-simplistic accounts, and are good for generating theories. They also point out shortcomings of type 4 studies, i.e. the generality of the findings may be called into question in the absence of validity checks; the findings may be not replicable due to the reliance placed upon intuition and subjective interpretation; the accuracy of inferences cannot be objectively established, since relationships are defined conceptually rather than statistically; and the findings can be non-cumulative because of a problem of non-comparability among studies. Since it is impossible to eliminate such shortcomings, I sought to minimize them by performing an exploratory post-study validity check; acknowledging up front and challenging throughout the analysis widely diffused explanations that attribute GE's success to Jack Welch and WH's failure to bad luck; and providing detailed description of the research method.

Research Setting

The case histories of GE and WH are consonant with the investigation of *why some positions of industrial dominance are persistently maintained* and *why early success stories so frequently turn into stories of decline and failure*. These firms represent comparable extreme situations (Yin, 1989) and polar types (Eisenhardt, 1989) in which long-term success and failure is observable. Therefore, the chosen cases are representative of an emergent theory (Eisenhardt, 1989) on long-term success and failure of organizations. Their comparative analysis allows answering how and why questions (Yin, 1989); increasing the visibility of contrasts (Kieser, 1994); building theory by generalizing findings into theoretical propositions (Yin, 1989); and sharpening one's vision of the present by suggesting transhistorical theoretical elements (Lawrence, 1984).

Data Sources

The study used various sources of historical information concerning the two firms, the constitution and development of certain industries they took part in, as well as more general environmental developments. Two business bibliography books (Daniells, 1957; Geahigan, 1988), articles and book reviews in business history journals, and dissertation abstracts were

helpful in identifying written material on the two companies and the industry. In total, 54 books, 27 articles, 15 case studies and 7 doctoral dissertations were selected. Other sources of data included Moody's Industrial Manual (1923-1997), Fortune Magazine (1930-1999), Business Week (1930-1947), the Annual Reports of each company (1971-1999), and Mitchell's (1998) International Historical Statistics.

Data Preparation

Accounting-based data. Accounting-based data of both companies over eight decades (1917-1997) called for the generation of longitudinally comparable quantitative indicators. Initial attempts to use indicators such as EVA and MVA (Stewart, 1991) proved unfruitful on account of insufficiently consistent longitudinal information to calculate them. Relative measures such as market share were at first also considered, since they contribute several advantages for longitudinal analysis. For one, market share allows comparing the firm's development relative to its environment. In addition, market share is adimensional and time-invariant in what concerns phenomena like economic inflation and deflation. Market share data, however, were not available consistently throughout the period, and their use was discarded. Moreover, for highly diversified companies such as GE and WH, it is quite complex to consolidate market share into a meaningful, longitudinally comparable measure. I have therefore developed an indicator of firm size that is a relative measure, and that suits highly diversified firms, because it compares the firm to the economy as a whole. The indicator of the *size of a firm* in the American economy in a given year is defined as *the firm*'s *total annual sales as a percentage of the US GNP*. Plotting each firm's size indicator over the eight decades produced a proxy for their *growth trajectories* in the economy. Other accounting-based indicators were derived to complement the portrayal of the firms' evolution over time. These are: *performance indicator*, defined as *the firm*'s *annual profits as a percentage of the US GNP*, and *investment capacity indicator*, defined as *the firm*'s *annual retained earnings as a percentage of the US GNP*. Thus it was possible to plot two more pairs of curves. All graphs contributed descriptive information only, and called, therefore, for qualitative data (historical events) to advance explanation for the observed patterns.

Historical events data. I used Excel spreadsheets to organize historical evidence about the firms, the relevant environment, industry segments and individuals who played important roles in the history of the companies and the industry. I made three types of list: (i) Chronological entries of comparable organizational evidence, such as those regularly provided in Moody's Manuals; (ii) Chronological entries of idiosyncratic evidence about each

company; (iii) Inside and around events list, associating for each year two sorts of events: those taking place inside and those around the American electrical manufacturing industry. This third type of list helped to characterize the environment, its pressures on industry firms and their corresponding responses.

Data Analysis

Stage 1. Visual inspection of GE's and WH's growth trajectory curves, corroborated by the calculation of correlation coefficients, identified that at first companies grew and contracted in concert, and that this ceased to occur later on, signalling a change in pattern needing explanation. Moreover, the plotted curves have suggested that WH should be pictured somewhat differently from a good, silver or bronze medalist company (Collins & Porras, 1994). Though this image might fit the company's early decades, the growth trajectories and the investment capacity curves suggest that WH considerably departed from the gold medalist's course, putting into question its medalist condition in later times. Two strategies (Langley, 1999) were helpful in making sense of data: visual maps building, which merged quantitative and qualitative information on the two companies over time, and temporal bracketing, which divided the twelve decades of the industry history into 3 major periods: formation (late 1870s to 1910), structured (1910 to late 1950s), and restructuring (late 1950s on).

Stage 2. The scrutinizing of entries in the above mentioned events lists sought to find evidence of similarities and differences in behavior within each firm over time, and across the two companies in specific points in time. Within-case analysis (Eisenhardt, 1989) indicated the extent to which each firm's behavior was steady or variable over time, while cross-case analysis (Eisenhardt, 1989) showed the extent to which the companies' behavior consistently differed from or resembled each other over time. Cross-case similarities would be suggestive of isomorphism, while cross-case differences would indicate idiosyncratic strategic behavior. Within-case similarities, that is, "repetitive modes of responding to internal and external pressures" (Selznick, 1957: 16), would suggest traits of organizational character. Finally, within-case variance would indicate episodes of change in the organization's character. Qualitative analysis confirmed that WH had developed a set of lethal liabilities which positioned the company far away from the winners' podium. Moreover, it revealed that despite their comparable capabilities in the development of high technology, the companies differed in several respects.

Stage 3. Content analysis (Weber, 1990) of the firm's behaviors sought to group them into the smallest number of meaningful categories. An iterative process alternating theory and data sought to conciliate empirical patterns (Mintzberg & Waters, 1982) and explanatory mechanisms (Bunge, 1996; Kiser & Hechter, 1991). As the process converged, five categories of growth-related, managerial challenges could be distinguished. The different ways GE and WH responded to those challenges of growing and running ever larger organizations provided insight into two sets of behaviors that describe two ideal types (Doty & Glick, 1994): the self-perpetuating and the self-destructive. The proposed typology defines the set of ideal types, provides complete descriptions of each ideal type using the same set of dimensions, and states the assumptions about the theoretical importance of each construct used to describe the ideal type, fulfilling therefore the requirements for proper development of typologies (Doty & Glick, 1994: 246-247). Organizational responses to the five challenges constitute descriptive dimensions of those ideal types, which are described in the next section.

Stage 4. Finally, Mohr's notions of variance and process theory (Mohr, 1982) oriented the identification of relations among constructs. Variance theory "grows out of a foundation in the necessary and sufficient", while process theory "in the necessary alone" (Mohr, 1982: 36). Process theory elements include phases, cycles, states, and the corresponding necessary conditions for the formation and change of phases, cycles and states. To identify necessary conditions content analysis of relevant literature searched for expressions like need(ed) to, require(d), necessary, necessitate, essential to, have(had) to, requisite, as well as the negative expression associated with a necessary condition: "in the absence of X, Y does not occur". The putting together of constructs and relations gave rise to a process model describing a chain of requisites for the development of organizational self-perpetuation propensity. Model building sought conciseness in order to avoid a common pitfall encountered in process models: a myriad of boxes and arrows that is "in general merely a complicated description of many alternative ways in which a class of events might unfold, not a theoretical explanation of anything" (Mohr, 1982: 23).

Post-study Analysis

To check the external validity (Yin, 1989) of the theoretical ideas advanced in this paper, I performed exploratory work on Miller and Friesen's six successful and four unsuccessful archetypes (1978; 1984). Even though their studies in several respects differ from this one, there were sufficient enough commonalities that allowed comparison. I made content analysis of the authors' rich description of each archetype in order to apprehend how

each one tended to respond to the five challenges this paper suggests. For example, in their description of organizational structure, I searched for evidence of integrating and coordinating mechanisms or fragmentation, rather than for centralized/decentralized, functional/divisional features. The theory building section advances the proposed model as well as the results of the exploratory validity check.

HISTORICAL ANALYSIS

GE and WH pioneered in several technology-based businesses, and early on became the top 2 companies in the electrical industry. They electrified and illuminated cities, made thousands of consumer products, and pioneered in electronics and telecommunications. Over time, they diversified both functionally and technologically. In addition to inventing and manufacturing, they branched out into marketing, distribution and finance. To develop increasingly complex products and systems, they extended their knowledge into the electrical, mechanical, chemical and nuclear fields. In doing so, both companies experienced continuous growth periods reaching gigantic sizes. In fact, since the Fortune 500 list was first published, both companies were listed among the 30 largest US companies.

Up to the early 1960s GE and WH basically competed in the same businesses and markets. They faced essentially the same environment: two world wars; economic ups and downs, including depression and inflationary periods; anti-trust legislation and suits; labor unions' activity; and changing technological regimes. From the 1960s on, their former remarkable similarity progressively faded away. Both firms gradually accelerated their diversification into other businesses. GE diversified mostly around its technological knowledge-base, turning into a highly diversified technology firm. WH, on the other hand, turned into a conglomerate of ill-related businesses, ceasing to exist in 1997, when the 110 years' old firm was split up. By then, WH had dropped to the 135th position in the 1996 Fortune 500 list.

The plotting of the indicators of size, performance and investment capacity defined in the research method section produced the curves shown in figures 1 to 3, respectively. Figure 4 is a visual map combining the firms' growth trajectories and top management tenure. The four sets of curves provide a comparative picture of the two companies from 1917 to 1997. Throughout this period, GE outperformed WH in annual sales, profits and retained earnings. It is also worth noticing that:

i) Figure 1 – GE's sales essentially increased over time, while WH's consistently decreased in the last decades. Moreover, the two companies performed a quite synchronized growth path for many decades. In fact, the correlation between GE's and WH's sales relative to the US GNP was 0.967 from 1917 to 1960, and -0.405 from 1961 to 1996;

ii) Figure 2 – GE was always profitable, while WH's balance sheet showed losses, and "virtual losses", for example in 1956 and 1974. The profits curves' resemblance diminished from the 1960s on – the correlation between GE's and WH's profits was 0.487 from 1917 to 1960, and -0.324 from 1961 to 1996. In line with Ghemawat's assertion that a firm enjoys a competitive advantage over its rivals when it earns "superior financial returns within its industry (or strategic group) over the long run" (Ghemawat, 1999: 49), fig. 2 suggests that GE sustained a competitive advantage over its closest rival throughout the whole period;

iii) Figure 3 – at first the two companies' retained earnings path resembled. From the mid-fifties on GE's investment capacity consistently increased, while WH's oscillated within a relatively small range, before dropping sharply. The correlation between GE's and WH's retained earnings was 0.683 from 1917 to 1960, and -0.701 from 1961 to 1996;

iv) Figure 4 – in general, the top executive's tenure lasted ten or more years. Noticeable exceptions include GE's 1940 decade and WH's 1980s and 1990s.

Figure 1 – Annual sales of General Electric and Westinghouse

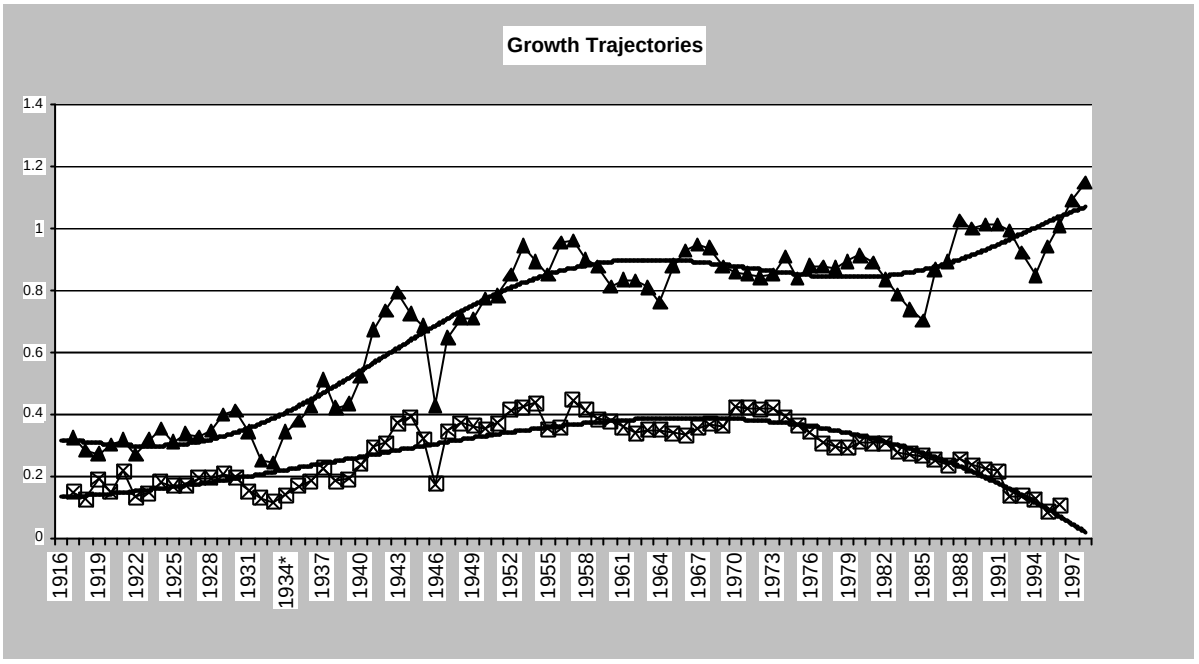


Figure 2 – Annual Profits of General Electric and Westinghouse

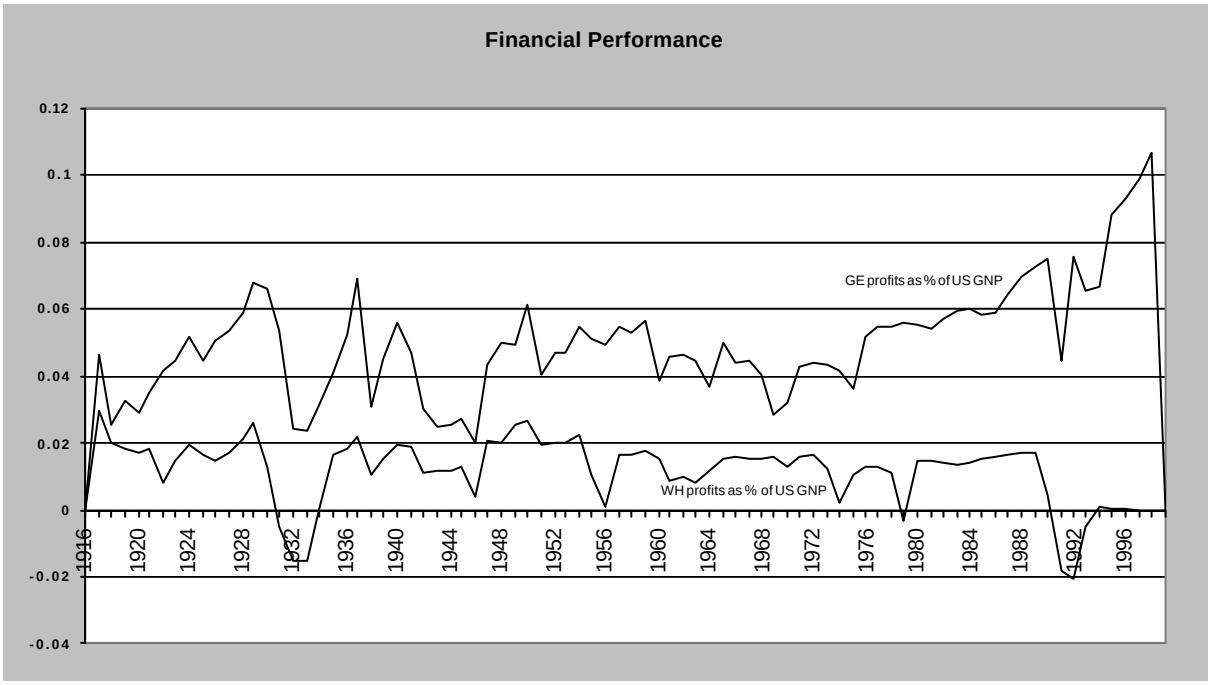


Figure 3 – Retained Earnings of General Electric and Westinghouse

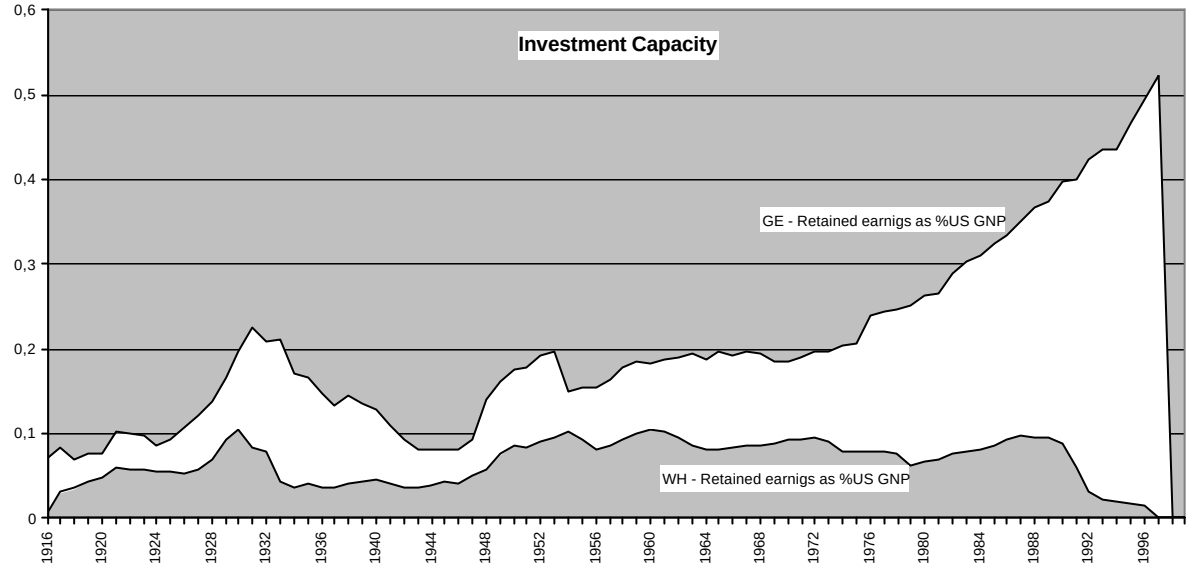
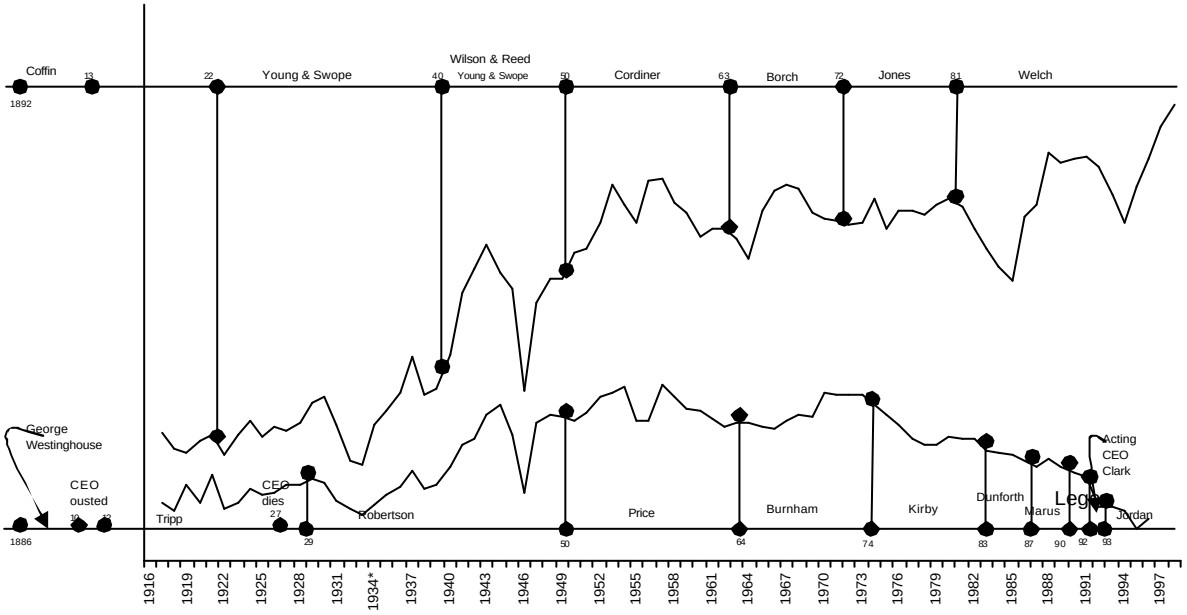


Figure 4 – CEO tenure at General Electric and Westinghouse



Based on this brief historical overview, it can be said that GE has persistently maintained positions of industrial dominance, while WH enjoyed early success, then declined and failed. A longitudinal comparison of those companies seems, therefore, adequate to

investigate Scherer's (1990) and Kocka's (1990) questions pertaining to long-term success and failure of firms.

Cross-case analysis disclosed similarities and differences between the two companies' behavior. Within-case analysis revealed that, in many respects, each company behaved rather consistently throughout the twelve decades analyzed, although now and then each company may have departed from its usual behavior. Cross-case and within-case analyses have suggested five types of growth-related challenges as well as the firms' polar responses to them (refer to table 1).

Table 1 – Five Organizational Challenges

Challenge Category	Challenge Description	Polar Responses to Change ◄——►	
Enterprising	Promoting continued entrepreneurship by fostering the firm's willingness to carry out reinforcing, value-creating expansion while also preventing the organization's overexposure to risk	***Satisficing or less*** (Low level of ambition, versatility, imagination, vision, fund-raising ingenuity, and judgment, using nil- & defensive motivated moves)	***High-reaching*** (High level of ambition, versatility, imagination, vision, fund-raising ingenuity, and judgment using productive- & hybrid-motivated moves)
Navigating into the Dynamic Environment	Dealing with the organization's multiple stakeholders in order to secure value capture and organizational legitimacy	***Drifting*** (Poor scanning, untimely or inadequate use of response strategies*) *manipulation, defiance, avoidance, acquiescence, compromise	***Fashioning*** (Regular scanning, timely and adequate use of response strategies*) *manipulation, defiance, avoidance, acquiescence, compromise
Diversity Management	Sustaining the firm's integrity in face of increasing organizational conflicts and rivalry	***Fragmentation*** (Failure to establish bonding relations and coordinating capabilities)	***Integration*** (Successful development of bonding relations and coordinating capabilities)
Managerial Resources Provisioning	Steadily equipping the firm with needed qualified human resources	***Late*** (Just-in-time or after the fact actions)	***Early*** (Planned in advance actions)
Complexity Management	Managing complex issues and solving problems of increasing complexity, so as to avoid risks to the organization's existence	***Ad Hoc*** (Poor problem solving capabilities upholding quick search for solutions and precluding learning)	***Systematic*** (Strong problem solving capabilities promoting comprehensive search for solutions and fostering learning)

Challenge #1: Enterprising

The *enterprising challenge* consists of developing the firm's willingness to expand on a continuing basis. It comprises the firm's willingness to take risks, to search for ways of avoiding risk and still expand (Penrose, 1980), and to carry out continuing growth instead of one-time growth. Full-fledged, *high-reaching responses* combine *entrepreneurial services*, that is, ambition, versatility (imagination and vision), fund-raising, and judgment (Penrose, 1980), and *reinforcing expansion moves* that put in motion a reinforcing process of generating new possibilities for expansion and value creation (Chandler, 1977; Penrose, 1980). In poor, *satisficing responses*, entrepreneurial services are but partially rendered, that is, they lack one or more aspects (ambition, versatility, fund-raising, judgment), and/or expansion moves give rise to one-time growth, failing to promote reinforcing expansion mechanisms.

According to Chandler's account (1977), *productive* expansion, which gives rise to economies of scale, scope and/or speed, is more likely to produce continuing growth than *defensive* expansion, which seeks to reduce uncertainties and protect existing businesses. Typical defensive expansion includes vertical integration, and horizontal acquisitions that seek to reduce the strength of competitive forces in the industry (Porter, 1980). My analysis has suggested the possibility of two other types of motives: *hybrid*, i.e., both productive and defensive, and *nil*, i.e., neither productive nor defensive. Hybrid motives allow a firm to improve its efficiency and protect existing businesses, while nil motives typically refer to empire-building expansion (Penrose, 1980). The firm that undertakes only defensive and nil motivated growth is highly likely to foment one-time growth, experience increasing difficulties to expand on a continuing basis, and face renewal problems in the long run.

Both GE and WH initially nurtured high ambition, showed high versatility in the technological field, put in motion reinforcing mechanisms of growth, succeeded at raising funds, and underwent one episode of overexposure to risk. In 1893, nine months after its foundation, GE faced a bankruptcy risk; in 1907, the Financial Panic in the American economy left WH in a poor situation. Over time, though, they progressively diverged.

GE took valuable lessons from the overexposure episode. Charles Coffin, GE's first President, responded to the crisis by adopting conservative accounting policies, which were kept and improved further throughout the following dynasties of CEOs. Throughout its existence, GE has employed entrepreneurial *judgment* to routinely assess and hedge risks,

and sometimes exit promising, yet risky businesses. For example, risk assessment of the artificial rain process invented in GE's Research Lab indicated that the typical unpredictability of weather conditions could put the whole company at risk. So, despite the huge commercial potential for the agricultural market, the project was discontinued.

WH's overexposure episode, on the other hand, was not as effective a learning tool, and as a result, WH failed to develop and employ entrepreneurial *judgment* to routinely assess and hedge risks. Throughout its existence, WH took far too many life-threatening risks, such as in the cases of its international expansion during George Westinghouse's tenure, its diversification strategy in the 1960s, its careless management of risks in the nuclear business in the 1970s, as well as at its financial subsidiary in the 1980s/1990s.

Interestingly, even though GE had also diversified, achieved an important position in the nuclear market and developed its financial subsidiary, it did not face life-threatening risks after 1893. It should be noted, though, that GE did not turn into a losses-free investor. Now and then it incurred in some significant, yet not life-threatening losses, such as the computer business in the 1950s and 1960s and GE Capital's acquisition of Kidder Peabody in the 1980s.

Over time, the companies also progressively diverged in *ambition* and *versatility*. GE nurtured high ambitions of being and remaining the top company in the industry and fomented versatility at several levels in the hierarchy. On the other hand, following the 1896 cross-licensing agreement with GE, WH's initially high ambitions of industry leadership downgraded into vice-leadership. The way each company approached WWII also illustrates differences in ambition and versatility. While GE's middle management took initiatives to get munitions orders even before WWII started, and later on GE's top management organized special committees to accept and handle an increasing large number of war orders, WH's management initially refused war orders. As a result, by the end of WWII, GE had duplicated the number of plants and increased its floor space by 40%, while WH increased its floor space by 17% only.

Over time, the two companies also came to diverge in the ability to foster *reinforcing growth*. GE consistently made use of highly developed entrepreneurial services to foster reinforcing growth – although, occasionally, some episodes, such as GE's entry into the mining sector, failed to. GE grew into an integrated technology-based diversified company, whose Research Lab creation clearly was the result of a hybrid-motivated move: it sought not

only to *defend* the lamp business through the development of patentable knowledge, but also to *explore new related fields* made known in the course of GE's search for a monopolistic position in lamps. As for WH, up to the 1960s, it fomented versatility at the technological level, giving rise to reinforcing, productive-motivated expansion, but thereafter WH underwent nil-motivated expansion, having diversified into a conglomerate of ill-related businesses.

In sum, GE nurtured high developed entrepreneurial services that fostered reinforcing expansion moves and held superior *fund-raising* capabilities as a result of its first-class performance. On the other hand, WH failed to develop high entrepreneurial capabilities, and over time it traded productive for nil motivated expansion, undergoing risky moves that threatened it existence. Over time, WH's financial position weakened, and its former fund-raising capability declined. More often than not, GE managed to create value and to minimize value destruction, while WH did also create value for several decades, but eventually decayed and underwent an increasing process of value destruction.

Challenge #2: Navigating into the Dynamic Environment

The *navigating challenge* is about successfully dealing with the organization's multiple stakeholders in a changing environment, so as to secure value capture and organizational legitimacy. While the enterprising challenge concerns mostly value creation, the navigating challenge emphasizes value capture. Full-fledged, *fashioning responses* to the navigating challenge comprise the regular scanning of environmental pressures, and the timely and adequate use of the full range of strategies (Oliver, 1991) to shape the environment (manipulation and defiance strategies), to neutralize pressures (avoidance strategies), and to adjust to situations that lie outside the firm's reach (compromise and acquiescence strategies). *Drifting responses* perform poor scanning and/or untimely and/or inadequate use of response strategies. This causes the organization to drift and puts the firm's survival at risk for several reasons: important opportunities for value capture may be lost, the firm's readiness to promote and react to change may weaken, and threats to organizational legitimacy may be left unattended.

In the case of GE and WH, the environment was persistently tough, having challenged both firms in different ways throughout the twelve decades: technologically, competitively, economically, legislatively, politically and socially. In the early days of the industry, GE and WH performed similar, discretionary roles (Pfeffer & Salancik, 1978) throughout the institutionalization process of the industry (Greenwood, Suddaby, & Hinings, 2002). They

challenged the electrical industry by developing the incandescent lamp system and the AC distribution system, respectively (defiance strategies). A few years later, they signed a cross-licensing agreement of their patents that ended hundreds of patent infringement suits each company had filed against the other (compromise strategy). Thereafter, the two companies actively pursued smaller rivals that infringed the patents covered by the cross-licensing agreement (defiance strategy). Those smaller companies ended up being acquired by either one of the top two companies, which ended up controlling the industry (manipulation strategy). The strategies conceived to stabilize relations within the industry succeeded at neutralizing competitive forces (Porter, 1980), and put the industry under scrutiny of the Justice Department on several occasions. GE led industry reaction conceiving a number of response strategies that sought to build a protective cover for the whole industry against price wars, so as to secure stability and handsome profits for all players.

For example, GE took advantage of its tungsten patent (1911) to control the lamp industry. Its licensing agreements, combined with its vertical integration into the manufacturing of key components allowed GE to set production quotas and to check whether the allotted quotas were respected (manipulation strategy). GE's introduction of an agency plan, whereby local dealers took lamps on consignment allowed GE to set prices, whose endorsement was in the best interest of the other players. Though challenged on several occasions, the license agreements and the agency system of lamp distribution withstood legal attacks for more than three decades. Whenever necessary, avoidance strategies were also used in dealing with antitrust suits. In the 1930s, for example, GE and WH sold their stock positions in their RCA joint-venture, and both left the electrical utilities business. GE also realized that a strong number 2 company provided legitimacy to the whole industry, and as a result, on a few occasions, WH managed to bargain privileged conditions in their agreements (WH's manipulation strategy vis-à-vis GE).

After WWII the protective cover had its coverage area considerably reduced, and what was still left thereafter, was finally eliminated in the late 1950s, when GE, WH and 27 other electrical manufacturers faced the courts once more. The trial fined several companies and sent to jail various executives for conspiring to fix prices, manipulate bids, and divide markets.

In sum, initially both companies proactively responded to environmental pressures, having performed important roles throughout the institutionalization process of the industry. Over time GE managed to combine activity, whenever possible, and passivity, whenever necessary, while WH came to respond more passively through acquiescence, compromise

and avoidance strategies. For example, during the 1950s and 1960s GE put unions in a minor, extremely weak position, and secured itself a two decades long strike-free period. WH, on the other hand, fought unions in the conventional way, relying on compromise strategies.

Moreover, throughout almost 7 decades GE informally presided over the industry, outlining individual and collective responses to environmental pressures so as to match and/or create market change. GE therefore came to play an increasing coordinative role in addition to responsive and discretionary roles (Pffefer & Salancik, 1978). That informal coordination, which protected the whole industry from price wars, and secured handsome profits for all, drove GE's rivals into passivity. As a result, only GE underwent a learning process whereby it developed dynamic capabilities (Teece, Pisano, & Shuen, 1997; Eisenhardt & Martin, 2000) that promoted continuing growth and persistent dominance. WH's considerably smaller role precluded it from developing such capabilities.

Challenge #3: Managing Diversity

The *diversity management challenge* has to do with sustaining the firm's integrity as the firm experiences increasing diversity. In fact, as a firm grows, organizational diversity increases in several respects: markets, products, technologies, human resources. Heterogeneity among the constituent parts of the organization gives rise to conflicts and rivalry, thereby threatening organizational unity. Successful management of organizational diversity distinguishes heterogeneous from homogeneous organizational elements, and foments suitable bonding relations (Stickland, 1998). It promotes resource sharing for homogeneous aspects and resource exchanging and/or combining otherwise.

Bonding through sharing comprises not only common goods, facilities, personnel and services but also less tangible items like organizational reputation, organizational myths (Selznick, 1957), and shared perceptions of sustained threats to organizational existence. By making use of standardization processes, this type of bonding is likely to promote economies of scale, scope and speed (Chandler, 1977; Chandler, 1990). To the extent that shared resources are valuable and rare due to unique historical conditions, this bonding is likely to confer the organization with resources that are hard and costly to imitate (Barney, 1997).

Bonding through exchanging and combining includes both the physical exchange and combination of goods, facilities, personnel and services, and organizational processes involving complex interactions and strong relationships between organizational elements. This

bonding is likely to confer the organization with processes that are hard and costly to imitate due to their embedded social complexity (Barney, 1997).

In both cases, the building of bonding relations calls for coordination capabilities. Such capabilities include the proper implementation of coordinating mechanisms such as liaison positions, task forces, standing committees, integrating managers and integrating departments (Lawrence & Lorsch, 1967; Galbraith, 1973; Mintzberg, 1979). Successful implementation of coordination mechanisms does not extinguish heterogeneity. Rather, it makes constructive use of heterogeneous elements, stimulating organizational integration. Poor coordination capabilities, on the other hand, predispose organizational members to refrain from cooperating. As a result, members will likely seek increasing autonomy, which ends up producing organizational fragmentation. In sum, full-fledged, *integration-oriented responses* to the diversity challenge promote the sustainability of organizational integrity, while poor, *fragmentation-oriented responses* weaken organizational integrity.

GE has consistently made integration efforts and developed strong coordination capabilities. WH's integration efforts were less frequent and less effective, due to WH's poor coordination capabilities. GE's first integration challenge, the merger of two rivals that had both common and complementary businesses, escalated in less than a year, as the 1893 Financial Panic hit the American market. Coffin's search for integration included productivity contests between plants that produced the same type of products, whereby the winner incorporated the defeated plant. Swope in the 1930s, Cordiner in the 1950s and Welch in the 1980s-1990s also emphasized integration through productivity enhancement.

Building and managing complex relationships was also frequent in GE. Coffin's awareness of the interdependence between his business skills and his partners' technological skills preceded GE's foundation. Teaming up at first with Thomson at Thomson-Houston, then with Rice, Whitney and other high-tech talents that would join GE, Coffin sought to establish a fruitful, mutually respectful relationship between the two complementary sides. His successors, Swope, the engineer, and Young, the lawyer, also teamed up in a technology-flourishing and legislation-challenging environment. The fact that the very constitution of GE's Research Lab in 1900 combined an eclectic team of researchers in chemistry, physics and mathematics provides another example.

Nurturing myths and threats, and promoting less tangible integrating resources was also effectively employed at GE. Thomas Edison is still GE's most venerated myth, despite the

fact that Edison's decision power after the merger became next to none. Over time, many other GE scientists have also been largely exalted in the press. Excluding Coffin, who was absolutely opposed to publicity about himself, all other GE's CEOs became icons of their times. GE's best practices have also been publicized and followed with great interest in business and academia. External threats to the company's existence – economic, technological, legal, and competitive – have been used to blend its many parts. Other examples of integration tools include Swope's decision to put the GE monogram in every product, Welch's company-wide promotion of the Six Sigma program, and GE Capital's integration process (Ashkenas, DeMonaco, & Francis, 1998).

On the other hand, from its inception, WH was loosely integrated. It was in fact merely one more quasi-autonomous manufacturing unit of George Westinghouse's fragmented empire, in which the binding role was reserved for its founder – a respected myth, as strong as Thomas Edison. This notwithstanding, after his removal from WH's management, he sank into oblivion inside WH, and the company hardly ever benefited from the potential binding power of the mythical founder.

Fragmentation was consistently reinforced over time. Upon George Westinghouse's ousting, his replacement, an outsider with a financial background, introduced another kind of fragmentation: not only were manufacturing units kept apart from each other, but top management became considerably more dissociated from WH's operations. Throughout the succeeding dynasties timid, ill-accepted integration efforts were alternated with easily absorbed autonomy-producing adjustments.

During WH's international expansion in the 1960s, WH's CEO, Donald Burnham, reacted to the first setback in his strategy by turning back to the familiar fragmented structuring. In doing so, Burnham annulled his predecessor's efforts to provide effective coordination over the entire corporation. As a result, expansion and diversification ended up in the hands of business unit managers, who built an amazingly diversified business portfolio. This entirely uncoordinated expansion caused enormous losses for several years. Kirby's efforts to coordinate WH's restoration left unattended the so far highly successful financial subsidiary. Once more, losses were huge to the point of shutting down the financial subsidiary.

WH consistently failed to develop bonding relations to counterbalance diversity. Manufacturing divisions enjoyed so much autonomy that complex bids gave rise to several

rounds of negotiations within WH. Whenever a sale involved more than one manufacturing division, as in a bid on a utility power plant in which the transformer, generator, and switchgear divisions might all participate, the process within WH for deciding on price, delivery dates and finally submitting a bid took longer that its rivals'. Such sales accounted for more than half of all WH's apparatus sales, which were normally more than twice as profitable as consumer goods.

In the international landscape the situation was no better. After his appointment as COO in 1978, Douglas D. Danforth travelled abroad extensively. According to him, "our own people were telling me we could do better. We were turning down projects because the job needed six of our business units and only three were interested." (Fortune, January 14, 1980: 50) Customers also complained. As Fortune reported, "not long ago, a company salesman called on a Saudi business man. After the preliminaries, the Saudi reached into his desk drawer and drew out the business cards of twenty-four other Westinghouse salesmen. Spreading them out in his desk, the Saudi exasperatedly inquired: 'Who speaks for Westinghouse?' " (Fortune, Jan. 14, 1980: 50)

In sum, WH's failure to promote binding relations precluded it from neutralizing the disintegrating effects of diversity. Rather, it promoted fragmentation, endangering the organization's integrity.

Challenge #4: Provisioning Managerial Resources

The *provisioning challenge* is about steadily equipping the firm with needed qualified human resources, that is, anticipating needs, forming, retaining, developing and renewing those resources. Human resources formation, retention, development and renewal are vital for the continuing growth (Penrose, 1980) and continued existence (Chandler, 1977) of the firm. Failure to provide the needed managerial talent at the right time may not only preclude expansion, but also weaken the organization's integrity, such as in the case of massive recruitment of management. *Early responding* to the challenge through actions that are planned in advance allows equipping the firm with the needed resources, while *late responding* through after the fact actions weakens the organization's integrity.

Providing GE with a continued existence was a permanent concern. Early on, recruiting, training and evaluation procedures were implemented at the technical level. The Test Program for engineers is a case in point. Over time, procedures were improved and

extended to reach several other functions. At the managerial level, Cordiner inaugurated the Crotonville training center in the early 1950s. In anticipation to GE's estimates that, in the following ten years, GE would need to fill in excess of 1,500 executive positions, recruiting methods were increasingly systematized, managerial training standardized, and job rotation promoted. Despite its obvious advantages those policies brought about unanticipated consequences. The fact that individual brilliance was devalued, and managerial compliance to the standards was cherished produced complacency. Such exaggeration almost led GE to lose the young Jack Welch in the early 1960s.

Coffin inaugurated the careful management of succession. Concerned about top management team harmony, Coffin sent Swope and Young to Europe in a several months long trip to test their teamwork capabilities. Upon their return, in light of strong signs of mutual respect and common grounds, Coffin pursued the succession plan. Many decades later, Reginald Jones mimicked Coffin's approach to succession. In fact, Jones' interviewing of prospective successors with questions such as "Who should run GE in case you and I died?" sought to capture the interpersonal relationships among contenders, who might eventually come to work together. Over time an increasing amount of attention was devoted to managerial succession at all hierarchical levels, and members of the Board of Directors would increasingly get involved in managerial appraisal and succession.

Under extreme circumstances, GE made use of its rank of retired employees. As in WWII, for example, when GE brought back its retired President Swope and Chairman Young to replace Wilson and Reed, respectively, during their participation in the War effort in Washington. A few years later, engineers and salesmen were also brought back from retirement during the Korean War. At that time GE faced personnel shortage to simultaneously handle the technologically challenging war issues and the booming market for electrical products and electrical energy in the United States. GE reconciled those two strong pressures on business growth by allocating experienced, retired people to GE's traditional lines of business, and the younger talents to the innovation-challenging defence projects.

At WH the technical career mimicked GE's recruitment and training procedures. On the other hand, no consistent effort was made to foster the development of a qualified managerial hierarchy able to take increasing responsibilities and to coordinate an ever larger organization. In fact, the very first succession was troublesome, having left some long lasting consequences. The abrupt replacement of George Westinghouse by the outsider Guy Tripp produced a "we versus them" climate between insiders and outsiders. Tripp's unexpected

death after ruling for 15 years took WH into an almost two-years-long search for replacement. His successor also came from the outside, and so did the other CEOs up to Robert Kirby, the first home-grown executive to take the helm, in 1974. Kirby's quite unusual succession deliberately designed the Danforth-Marous-Lego short tenure. Interestingly, in the early 1990s, WH would once more experience an almost two-years-long search for a CEO, when Lego took an early retirement.

In sum, GE consistently managed its needs in advance, while WH did not. The poorly developed managerial hierarchy was detrimental to WH, having produced uncertainty, precluded continuity, and threatened its integrity.

Challenge #5: Managing Complexity

The *complexity challenge* is about managing complex issues and solving problems that involve a large number of interdependent variables so as to avoid putting the organization's existence at risk as a result of faulty assessments of the situation. Complex problem-solving requires systematic procedures of data gathering, analysis, decision-making and implementation. The complexity challenge, therefore, affects the quality of the responses to all other challenges. *Systematic problem-solving* promotes comprehensive search for solutions and fosters learning, contributing highly needed capabilities to successfully face the enterprising, the navigating, the diversity, and the managerial provisioning challenges. *Ad hoc problem-solving*, on the other hand, favors the quick search for solutions and precludes learning, contributing substantial organizational liabilities to the organization.

The larger the organization, the more complex it is likely to be. The more complex, the more vital systematic problem-solving will be to prevent the organization from committing the whole company on the basis of partial assessment of the situation, and therefore threatening organizational integrity (Selznick, 1957). On the other hand, the firm that institutionalizes the firefighting mode (Winter, 2003) to solve problems puts in danger the continuity of its existence.

At GE, the systematic approach to innovation that inventors like Edison and Thomson had pioneered was consistently applied to the management of the growing organization. Edison's approach to innovation, for example, encompassed a clear understanding of reality and a well conceived implementation that aimed at maximizing the chances of success. Important aspects of reality had to be quantified in order to be understood, and a careful

analysis of intervening actors had to be done to successfully implement innovation. Management regularly applied the systematic approach to acquire a better understanding of reality, as well as to increase the chances of success when implementing changes. Emblematic examples include Swope's, Cordiner's and Welch's consistent efforts to develop yardsticks; coping with the labor movement from the late 1940s to the late 1960s; GE's carefully conducted seven years long decentralization process; and inflation studies in the 1970s. It is worth noticing, however, that unchecked application of the systematic approach progressively produced ever more sophisticated control systems until Welch came to the rescue releasing GE from excessively heavy, bureaucratic procedures.

At WH, George Westinghouse inaugurated a systematic approach to innovation that continued to be used by WH's engineers until the 1990s. This, however, was not consistently applied to management. In contrast to GE, understanding reality was not systematically pursued at WH. Sporadic attempts at problem-solving such as the Vabastram system and quality management were undertaken on a piecemeal basis rather than systematically. WH allowed problems to achieve high proportions, prompting the search for ad hoc solutions (Winter, 2003). Typical examples include WH's poor management of labor relations, which more than once led the company to face several months long strikes, and poor appraisal of candidate businesses for acquisition, which brought about major losses.

In sum, GE's systematic approach to problem solving aimed at detecting complex situations at their formation, so as to anticipate adversities inside and around the firm, avoid unpleasant surprises, grow safely and thereby protect GE's integrity. WH's ad hoc approach to problem solving endangered the company's integrity on several occasions to the point of threatening WH's existence.

Success and Failure throughout the existences of GE and WH

Historical evidence suggests that since GE's first years its responses to the five challenges to a large extent matched the right pole set of responses (table1). Now and then, GE departed from the right pole when dealing with some challenge or other, but managed to reorient itself, and thanks to its highly developed systematic problem-solving capabilities, it avoided overexposure to risk. Moreover, evidence from two situations suggests that GE has managed to learn from critical situations. The first occurred shortly after its foundation, as a result of the abrupt Financial Panic of 1893. The other concerned the dismantling of the protective industry structure that GE had greatly helped to build. In fact, GE's navigation in

the changing environment from the mid-1950s to the late-1970s was arduous, but the company managed to learn from mistakes and redirect itself. Overall, it can be said that GE has consistently made use of right pole (table 1) responses, and above all that it has been learning to handle conflicting pressures in a way that preserves organizational integrity and promotes renewal through continuing growth.

As for WH, historical analysis suggests that its declining process was more a suicidal trajectory (Whetten, 1980) than a triumph of GE over its rival. No hostile, homicidal environment forced WH's dissolution. Rather, WH's technological values were not strong enough to neutralize the disintegration initiative that its largest shareholder championed. Though the two companies competed on a par in technology, WH's contraction (refer to fig. 1), uneven performance (refer to fig. 2), smaller investment capacity (refer to fig. 3) and occasional succession problems (refer to fig. 4) resulted from WH's poor responses to the growth-related challenges, with the exception of its enterprising capabilities. Throughout its existence, weak organizational pillars supported WH's technological capabilities. This suggests that WH underwent a self-destruction path in the course of which it developed a set of liabilities that undermined continuing growth efforts and gave rise to a fragmented, unlearning organization that did not manage to successfully navigate on its own after the dismantling of the protective industry structure.

THEORIZING ON LONG-TERM SUCCESS AND FAILURE OF ORGANIZATIONS

In this section, analytic generalization (Yin, 1989) from the comparative study addresses the questions *why some positions of industrial dominance are persistently maintained, and why early success stories so frequently turn into stories of decline and failure.*

Organizational success (failure) has to do with the organizational ability (inability) to manage growth-related challenges. The right pole responses (in table 1) describe a set of capabilities required for organizational long-term success, while the left pole characterizes a set of liabilities conducive to organizational failure. The sets of capabilities and liabilities constitute organizational archetypes of success and failure, respectively. I have coined two terms to designate those archetypes: those firms that behave according to the set of capabilities (right pole responses) are called *self-perpetuating organizations*, whereas those whose behavior fits the set of liabilities (left pole) are named *self-destructive organizations*.

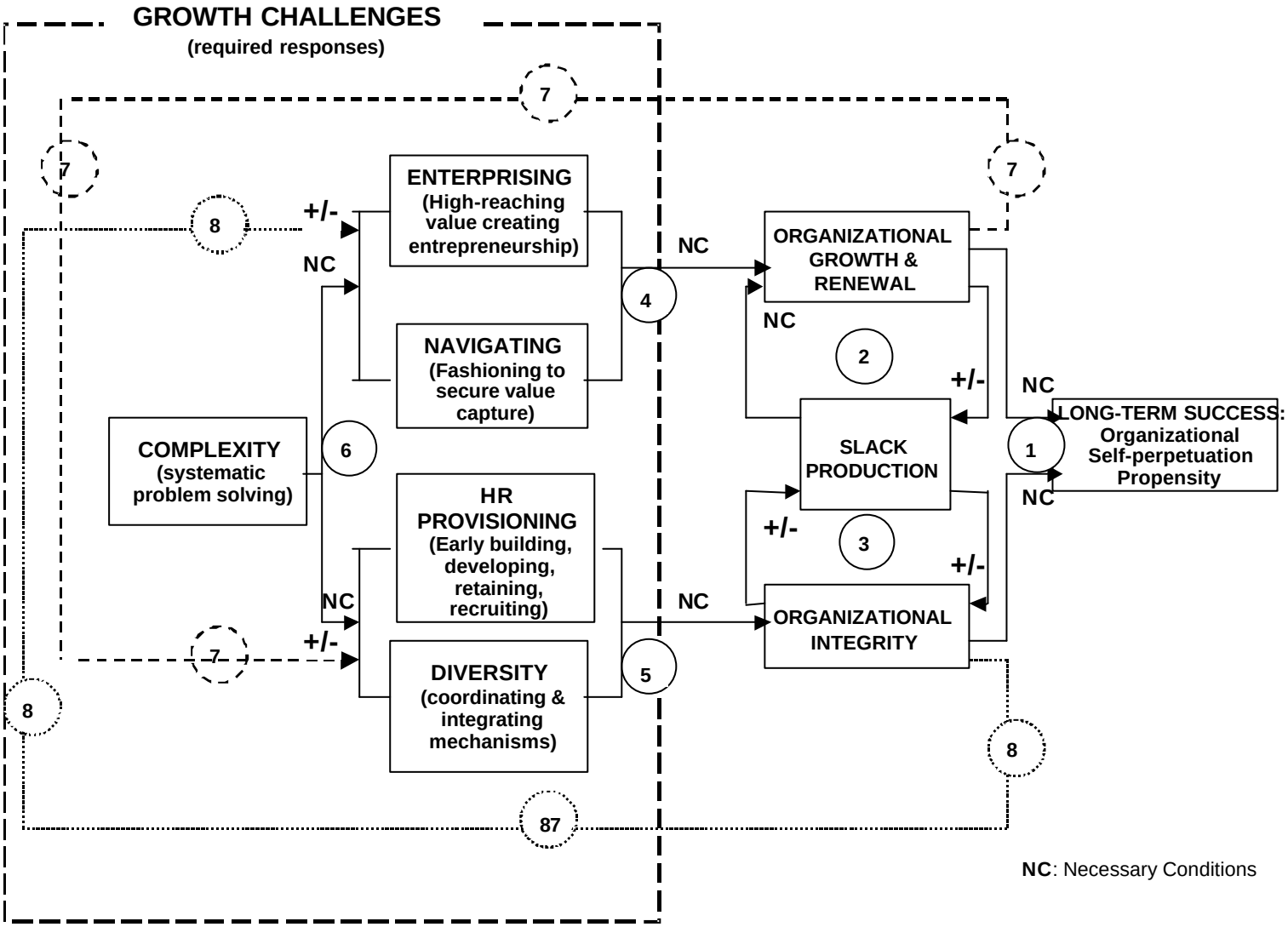
The self-perpetuating and self-destructive organizations are organizational ideal types (Doty & Glick, 1994) and constitute extreme poles of a continuum of possible organizational states. On acount of local rationality (Cyert & March, 1963), different responses to one given challenge may coexist in one same corporation. As a result, no real organization behaves entirely in accordance with either ideal type. Rather, real organizations operate in intermediary states between the two polar states. The more capabilities an organization develops and makes use of, the more it approaches the self-perpetuation pole, and the more liabilities it develops and relies on, the nearer it is to the self-destruction pole. Finally, the greater the organizational propensity to nurture self-perpetuating capabilities, the higher the chances the organization will experience success; and the greater the organizational propensity to develop self-destructive capabilities, the higher the chances it will experience decline and face threat of extinction.

From this perspective of organizational success and failure, an organization is likely to persistently maintain positions of industrial dominance to the extent that it nurtures a propensity to self-perpetuate. On the other hand, as a successful organization fails to nurture a propensity to self-perpetuate it will eventually turn into a self-destructive organization and will face decline and failure. The empirical study has identified organizational behaviors conducive to organizational long-term success and failure, having, therefore, contributed answers to the questions of continued dominance, and of early success turning into decline and failure. From a theoretical viewpoint, however, a deeper understanding of why such behaviors are likely to produce organizational success and failure is needed. A process model (Mohr, 1982) conducive to organizational self-perpetuation is proposed (refer to figure 5) and its rationale is presented below. To facilitate understanding, I have numerically labeled the relations among constructs in the model (1 to 8) and will discuss them in sequence.

Relations associated with label 1

There are two necessary conditions for organizational long-term success, i.e., for the development of a self-perpetuating propensity: continued renewal through organizational growth and organizational integrity preservatio.

Figure 5 – Model of Requisites for the Development of Organizational Self-perpetuation Propensity



NC: Necessary Conditions

Renewal through growth. Both Penrose (1980) and Chandler (1977) have pointed out a self-renewing capability of firms. This capability comes from slack resources, that is, under-utilized, transferable skills and resources produced in the course of an expansion. Because of the indivisibility property of newly acquired resources (Penrose, 1980), the firm inevitably ends up with excess resources that can be applied in other activities. This gives rise to related expansion moves made to increase operational efficiency. By doing so, new types of slack are produced, and new expansion can be pursued. Chandler calls such process continuing growth. The continuing growth process provides renewal seeds, highly appreciated to cope with the changing condition of the environment. Since from a long-term perspective no environment is stable, setting in motion *continuing growth* processes becomes *an organizational requirement* for long-term success. GE has activated at least two such macro processes. The first promotes technology-based related diversification, having given rise to most of GE's businesses. The other produces related diversification by replicating functional expertise. This is precisely the case of GE Capital, which has extended GE's age-old financial capabilities.

Organizational integrity. Growth, however, contains potential threats to organizational healthy longevity. As Chandler (1977) mentioned, cash flow pressures exerted by high fixed costs may lead to expansion that produces higher but less profitable use of resources. In addition, as the growth process develops, multiple pressures may threaten organizational integrity: ill-managed rivalry (Selznick, 1957), poor cooperation (Barnard, 1938), weak coordination skills (Lawrence & Lorsch, 1967), strategy formulation and implementation supported by incomplete assessments of the situation (Selznick, 1957), and poor recruiting (Selznick, 1957). If unattended, those pressures may threaten the firm's integrity and lead to its break up and self-destruction. Therefore, preserving the organizational integrity is a requirement for long-term success.

In sum, to persist and perform well, organizations must renew through profitable growth, and preserve their integrity, having therefore to overcome the challenges of renewal and integrity preservation. It can be said, therefore, that long-term success requires the development of two abilities: *organizational renewal* through continuing growth processes and *organizational integrity preservation*, to enable the firm to continue existing.

Relations associated with labels 2 and 3

Slack is made up of all sorts of resources that exceed what is needed for the organization to operate at a given desired performance level. Such resources include both hard and soft categories, such as people, equipment, capital/profits, brands, reputation, etc. Slack production plays a distinguishing role in the development of self-perpetuation propensity, in that it affects both organizational renewal and integrity preservation.

Slack fuels continuing growth and vice-versa (label 2). *Slack fuels continuing growth* because slack is a necessary condition for organizational renewal. As Penrose (1980) has stated, some resource categories, such as management, are required to be available before expansion takes place. Otherwise, the quality/effectiveness and speed of the expansion move will be compromised. By the same token, *growth fuels slack* because, as both Penrose (1980) and Chandler (1977) have remarked, the growth process produces underutilized resources that join the pool of resources available for further expansion. But, since growth may also make use of existing slack resources, once undertaken, expansion moves may increase and/or decrease organizational slack both qualitative and quantitatively.

Slack also interacts with the fostering of organizational integrity (label 3). In the course of processes of organizational restructuring, for example, slack may *positively* influence organizational integrity when applied, for example, to develop and implement integrating and coordinating mechanisms. Slack may, however, affect organizational integrity *negatively* if used to compensate for faulty operating procedures, deficient communication, and poor handling of organizational conflicts, to name a few. Throughout the process, whereby slack fosters integrity or fails to do so, slack consumption may generate or release slack, increasing or decreasing the pool of available slack.

It is worth mentioning that sustained high economic performance provides the firm with an essential slack for organizational integrity preservation. For one, it undoubtedly contributes to nurture the organization's propensity to continue to exist, because, in principle, each stakeholder's aspiration can conceivably be fulfilled. In addition, sustained high performance can eliminate or postpone plans of discarding the organization or some part of it. When GE acquired RCA in the 1980s, for example, one of RCA's divisions, the television network NBC, was a candidate divestiture. Yet, as NBC has been a superior performer, GE has kept it. WH's consistently poor performance in the 1990s (refer to figs. 2 and 3) precluded most of its

stakeholders from fulfilling their aspirations, which partially explains why the century-old name of Westinghouse Electric Corp. vanished so quickly.

Relations associated with label 4

Organizational renewal through continuing growth is fostered (or precluded) through the development of capabilities (liabilities) to respond to two challenges: enterprising, and navigating into the dynamic environment. Organizational responses in the vicinity of the right pole (refer to table 1) constitute necessary conditions for the promotion of organizational renewal through growth. Let's see why. In what concerns the enterprising challenge, as Penrose (1980) has stated, in the absence of high-reaching entrepreneurial services (ambition, versatility, fund-raising, and judgment) that put in motion non-threatening reinforcing expansion (Chandler, 1977) the firm will fail to growth, renew, and ultimately create value on a continued basis. As for the navigating challenge, if the firm consistently fails to regularly perform environmental scanning, to shape the environment whenever possible, and to neutralize pressures and adjust to situations whenever needed, it will not succeed in capturing value from its enterprising initiatives. As a result, the firm will fail to feed the slack pool with financial slack. In sum, right-pole-responses to those two challenges constitute necessary conditions for promoting renewal through growth on a continued basis.

Relations associated with label 5

Organizational integrity is fostered (or precluded) through the development of capabilities (liabilities) to respond to two other challenges: managing diversity and provisioning qualified human resources. Organizational responses in the vicinity of table 1's right pole constitute necessary conditions for the preservation of organizational integrity (Selznick, 1957). A number of factors that are typical of social systems foment organizational fragmentation: rivalry (Selznick, 1957), the coexistence of numerous sub-coalitions (Cyert & March, 1963), and failure of cooperation (Barnard, 1938). In what concerns the diversity challenge, in the absence of strong capabilities to establish bonding relations and coordination capabilities, organizational integrity is precluded because the disaggregating effects brought about in the course of expansion moves will not be neutralized but rather will produce organizational fragmentation. Another typical feature of social systems is that relations take time to develop (Penrose, 1980). For example, in case of external recruitment, if newly hired people are immediately required to fight in the competitive landscape for a company they barely know, they are likely to rely on hiring people they are used to work with.

This may give rise to the formation of new sub-coalitions that do not have the time to merge into the existing social system, and provoke, as a result, a disaggregating effect that threatens organizational integrity. As a result, in the absence of planned in advance recruitment, development and retention actions regarding qualified human resources, the organization will fail to preserve organizational integrity. In sum, the right-pole-responses to the diversity and provisioning challenges constitute necessary conditions for preserving organizational integrity.

Relations associated with label 6

As mentioned before, the complexity challenge affects the quality of responses to all other challenges. Creating value on a continued basis, ensuring value capture, steadily equipping the firm with qualified resources, and sustaining organizational integrity are problems that require systematic treatment. In the absence of systematic problem solving, sooner or later the firm will face overexposure to business risk, leave unattended organizational legitimacy threats, fail to provision qualified human resources, and fail to neutralize the pressures towards fragmentation. Moreover, in the absence of a systematic problem solving attitude, today's wisdom and mistakes will not join the organization's knowledge base, supposing such a data base exists, which is hardly likely in the case of ad hoc problem solving. Ultimately, the firm will fail to develop the capability to learn. Therefore, unless the firm engages in systematic problem solving, its solutions will fail to consider the consequences for both the whole and its parts (Selznick, 1957). This opens the way for fire-fighting behavior (Winter, 2003), fuels organizational conflict, and over an extended period of time threatens organizational existence (Barnard, 1938).

Relations associated with labels 7 and 8

In what concerns label 7, organizational renewal through continuing growth introduces additional pressure on the diversity and human resources provisioning challenges, as expansion may require new management and new or improved coordinating and integrating mechanisms. This is in line with Chandler's assertion (1962) that the growth of companies requires adjustments in its organizing. As for label 8, preserving organizational integrity also introduces additional pressure on the enterprising and navigating challenges. The preservation of organizational integrity of an increasingly more diversified firm calls for additional slack generation to fulfill an increasing quantity and variety of stakeholders, as well as for creating career opportunities in order to retain valuable human resources. As both demands are conceivably attainable through growth, the preservation of organizational

integrity puts an extra pressure on value creation (enterprising challenge) and value capture (navigating challenge). The other way around, in the event of organizational contraction or stagnation, the diversity and provisioning challenges may be reduced. Subsequently, such change may reduce the pressures for value creation (enterprising challenge) and value capture (navigating challenge).

Checking external validity

Being ideal types, the self-perpetuating and self-destructive archetypes constitute extreme states of organizational existence. Real organizations lie in between the poles. In fact, GE's position along the organizational states continuum seems to have fluctuated in the vicinity of the self-perpetuating pole. WH never got as near the self-perpetuating pole as GE, and from a certain point on, WH moved towards the self-destructing pole. An exploratory examination of Miller and Friesen's (1978; 1984) successful (six) and unsuccessful (four) archetypes has also indicated that the companies those authors analyzed did lie somewhere in between the two poles. Interestingly, all unsuccessful archetypes responded poorly to the enterprising, navigating, diversity and complexity challenges. Three out of four unsuccessful archetypes also responded poorly to the human resources provisioning challenge, while the fourth one could not be assessed due to insufficient information on this issue. Table 2 summarizes the exploratory analysis for unsuccessful types.

Table 2 – Miller and Friesen's Archetypes (1984) vis-à-vis the Growth-related Challenges

CHALLENGES / ARCH.	ENTERPRISING	NAVIGATING INTO THE ENVIRONMENT	DIVERSITY MANAGEMENT	HR PROVISIONING	COMPLEXITY MANAGEMENT
F1: Impulsive	Firms badly **overextend** themselves (p. 92)	**Wrong** variety of environmental **scanning** (p. 93)	Vertical **fragmentation**: top mngt isolated Departments and divisions often work at cross-purposes (p. 92) Efforts are non integrated (p. 92) Poor internal communication systems (p. 93)	There is **not enough managerial talent** to administer the expanded enterprise (p. 92)	Over time, new acquisition targets are **not examined closely**. Weak companies are purchased. Lack of effective controls. Resources are seriously depleted by divisional operating problems (p. 92)
F2: Stagnant Bureaucracy	**Satisficing**, though not risky	**Avoidance strategy**: any changes managers become aware of are written off as fads or anomalies that will pass (p. 94) New ideas are discarded.	Very high level of **conflict** between upper-level (older) and lower-level (younger) managers (p. 95) Poorest internal communications (p. 94)	Failure in acknowledging and retaining talent: The firm **loses promising middle managers** to more progressive competitors (p. 95)	**Data fail to point to the real problem** of rethinking the product mix (p. 94)
F3: Headless Giant	**Aimless** organization (p. 98).	**Unable to adapt** to a more dynamic, competitive, heterogeneous environment (p. 97)	Loosely coupled, diversified **fiefdoms** of highly independent departaments and divisions (p. 96) Sub-units work at **cross-purposes** (p. 97) Reluctance to share information (p. 97)	NO INFORMATION AVAILABLE	Fragmented departmems try to **deal with the problems as they arise** (p. 97)
F4: Aftermath	**Too many risks** are taken (p. 100)	Scanning of markets is **minimal** (p. 101)	**No integration** of the old and the new (p. 100) Sharp division between new managers and veterans (p. 100) **Lack of** effective **coordination** and **integrative devices** (p. 100)	The firm has occasionally faced the **departure of managerial talent** (p. 99) A new team of executives takes control and tries a turnaround (p. 99)	**Piecemeal, inexpensive changes to solve problems** (p. 99) New managers jump at making immediate changes without first trying to uncover the roots of their problems or to predict the consequences of their actions (p. 100)

Successful archetypes, on the other hand, tended to respond in a better way to the diversity and complexity challenges: their coordination mechanisms and information systems were more developed, although they varied among themselves, depending on the size of the firm. Interestingly, most successful archetypes (five out of six) handled poorly at least one other challenge, failing therefore to fulfill the set of necessary conditions for nurturing a self-perpetuation propensity. The successful archetype that apparently approached the most the self-perpetuating pole was the 'Adaptive in a Very Challenging Environment (S_{1B})', which included Intel (in 1973) and DuPont (in 1950). Miller and Friesen's work (1978) classified DuPont in 1967 as 'Giant Under Fire (S_3)', an archetype of large, formerly successful companies facing renewal difficulties. In other words, over this time period, DuPont would have reduced its degree of propensity to self-perpetuate.

This is entirely consistent with the proposed model (figure 5). In fact, feedback relations associated with labels 7 and 8 indicate that over time the challenges faced by the organization may increase (in the course of a growth path, for instance) or decrease (in the course of a stagnation or shrinking path, for example). Consequently, the firm's propensity to self-perpetuate (or self-destruct) may also change over time.

CONCLUSION

Reflecting on the accomplishments and shortcomings of conceptually derived typologies and empirically based taxonomies, Danny Miller (1999:29) has suggested a third approach on configurations, namely "studying configuration as a variable or quality within each organization that can create or destroy competitive advantage". In a sense, the present study can be said to belong to this third approach because the self-perpetuating and the self-destructive archetypes in fact describe organizational capabilities and liabilities that help to create or destroy competitive advantage.

The self-perpetuating and self-destructive archetypes differ from most taxonomies, which "have justly been criticized for their lack of theoretical significance" (Miller, 1999:30). As a matter of fact, the proposed archetypes constitute building blocks of an emergent theory of long-term success and failure of organizations. The theoretical contribution is twofold. The first one, of descriptive nature, puts forward two organizational archetypes, the self-perpetuating and the self-destructive, which represent extreme states of organizational existence. The second contributes explanation, as it advances a model of requisites for the

development of the organizational propensity to self-perpetuate. The model's chains of necessary conditions intertwined with variance relations and feedback mechanisms help to understand why and how a self-perpetuating propensity may form or fail to. Additionally, the model also has some predictive power, as it predicts that an organization will fail to develop a self-perpetuating propensity (and enjoy long-term success) if its responses to the set of growth challenges repeatedly fail to approach the right pole set (table 1).

According to Miller (1999), the quality of configuration can have important normative implications. Such is the case with the proposed archetypes. For one, table 1 provides guiding lights for managing for long-term organizational success, distinguishing appropriate from poor responses to five organizational challenges. In addition, the theoretical model (fig. 5) helps managers to assess the impact of critical decisions on the long-term well-being of the firm.

Two features of the proposed model deserve further comments: the slack construct and the dynamic nature of the model. An issue of interest for both academics and practitioners is 'How big should slack be?' A qualified answer is beyond the scope of this paper, but it can be said that from the perspective of organizational long-term success, slack should be big enough to enable management to choose long- over short-term alternatives whenever managers face short- versus long-term conflicts. As for the dynamic feature of the model, it suggests that the organizational success state should be seen as a moving target. Although the nature of the requirements (the set of necessary conditions) for approaching the self-perpetuating pole keeps constant, the levels at which responses should be given necessarily change over time. For example, what the enterprising challenge encompasses is definitely a function of the firm's size.

This brings implications for the investigation of organizational change within a long-term perspective. From this perspective, organizational change can be seen as state change in a bi-dimensional state space. The first dimension represents states of organizational existence, whose polar values are the self-perpetuating and the self-destructive states. The other dimension concerns the state of the environment, which could be defined in terms of how easy (or difficult) it is for firms to create and capture value.

All those insights indicate some challenging avenues of research. The operationalization of the model's constructs would enable longitudinal studies to perform theory testing. Data-rich longitudinal studies, such as the present one, could develop further

theory by identifying representative intermediary states of organizational existence. Also, in-depth studies on environmental conditions could suggest environmental states in function of value creation and value capture characteristics. Those research efforts would open the way for the study of the dynamics of organizational success and failure comprising investigations on persistent success (Chandler, 1977), persistent failure (Meyer & Zucker, 1989), and on state change, i.e. from self-perpetuating to self-destructive and vice-versa. This might enable investigating a critical question for researchers and practitioners: as a firm moves towards the self-destructive pole, would there be a point of no return?

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