

**ORGANIZATIONAL LIFE CYCLE AND INNOVATION AMONG
ENTREPRENEURIAL ENTERPRISES**

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ABSTRACT

Organizational life cycle has been studied for several decades by management researchers. Most efforts, however, have focused on relationships between a specific life cycle stage and another construct, such as organizational effectiveness, management priorities, organizational behavior, or competitive strategy. This study categorizes 107 organizations located in six contiguous counties in the southeastern United States into life cycle stages. Respondents were also asked to identify the importance of innovation and change in their industries, their perceived satisfaction with performance, and their perceived level of threats from the environment. Support was found for four of the five proposed life cycle stages, with none of the respondents indicating that their organizations were in the decline stage. Firms in Stage 1 (existence) and Stage 4 (renewal) reported high scores for innovation and change in their industries and a high level of satisfaction with performance. Stage 1 firms also reported the highest amount of perceived threat from the environment, in contrast to firms in Stage 3 (success) who reported the lowest.

Keywords: life cycle, stages, growth, decline, innovation

INTRODUCTION

The organizational life cycle is an intuitively appealing construct, proposing that organizations progress through a sequence of stages throughout its life, much like the model proposed by the biological sciences (Adizes, 1979; Chandler, 1962; Penrose, 1952; Quinn & Cameron, 1983). Past studies of the life cycle construct have attempted to identify

certain distinctive characteristics of organizations that differ over time and stages of the life cycle. This research is designed to assist managers in understanding that the life cycle need not be a deterministic certainty but rather a means of taking stock of a firm and making changes where necessary to invigorate and regenerate the firm's life.

The present study examines the life cycle stages of 107 organizations located in six contiguous counties of rural North Carolina. Following a review of the literature and a discussion of the organizational life cycle construct, complete results from an online survey are presented and discussed.

REVIEW OF THE LITERATURE

Borrowing from the biological sciences, organizational researchers have proposed several models of an organizational life cycle (Adizes, 1979; Churchill & Lewis, 1983; Downs, 1967; Greiner, 1972; Hanks, 1990; Kimberly & Miles, 1980; Miller & Friesen, 1984). Although the number of identifiable stages and their corresponding characteristics vary, most authors agree that organizations are at some point born (Tichy, 1980), have the opportunity to grow and develop (Mintzberg, 1984), and later die or renew themselves (Kimberly & Miles, 1980). The organizational life cycle can be defined as a "unique configuration of variables related to organizational context, strategy, and structure," a definition put forth by Hanks (1990, p. 27) based on the prior work of Chandler (1962), Miller and Friesen (1984), and others.

The life cycle literature is replete with different models, many utilizing various types of organizations as samples. The basic three-stage model was put forth by Downs (1967), Lippitt and Schmidt (1967), and Scott (1967). Those advocating a four-stage model include Lyden (1975) and Quinn and Cameron (1983), while five-stage plans were presented by Churchill and Lewis (1983), Greiner (1972), and Lester, Parnell, and Carraher (2003). The highest number of stages proposed is perhaps the ten-stage model of Adizes (1979).

Downs (1967) described the life cycles of government bureaus in a three-stage

model. Lippitt and Schmidt (1967) focused on critical managerial concerns such as survival and stability in a simple birth, youth, and maturity format. Scott (1967) developed a three-stage framework based on the strategy-structure relationship. Greiner's (1972) five-stage model used the need to solve the particular problems inherently found during each stage as the starting point for subsequent changes in the organization, an approach similar to that of Lyden (1975) and Smith, Mitchell, and Summer (1985). Torbert (1974) based his model on the mentalities of organizational members, resulting in an eight-stage configuration. Adizes (1979) presented an elaborate model of ten stages, with the primary focus of each stage being the production of results, entrepreneurial action, formal rules administration, and the integration of individuals into the organization.

Chandler (1962) made it clear that as organizations advanced through the stages of their life cycle, changes in their strategy and structure followed. This work was supported by Milliman, Von Glinow, and Nathan (1991), who noted that life cycles can predict organizational behavior. After three decades of debate, two models have become widely accepted as thorough demonstrations of the organizational life cycle, to be used by all firms. Quinn and Cameron (1983) developed a four-stage model and Miller and Friesen (1984) presented a five-stage corporate model that includes birth, growth, maturity, renewal, and decline. The decline stage has been a source of debate among scholars. While there has been some empirical support for decline (Lester, Parnell, & Carraher, 2003), most organizational managers and employees surveyed do not tend to see their firms in that light. In fact, Drazin and Kazanjian (1990), utilizing Miller and Friesen's (1984) data, only found support for a four-stage model.

The results of Miller and Friesen's (1984) study contributed greatly to the life cycle debate, but three of their contributions in particular stand out: (1) their study was longitudinal; (2) they established the four components of life cycle determination, which include strategy, structure, situation, and decision-making methods; and (3), their study confirmed that organizations do not necessarily progress naturally from one stage to the next in the same sequence as the next organization. Longitudinal research is critical in establishing the validity of the life cycle construct, and the lack of identical sequencing of movement through stages lends support to the usefulness of the life cycle model for practicing managers. If there is a strategic choice (Child, 1972) involved in moving organizations from one stage to another by altering one or more of the four keys (Kazanjian, 1988; Lester & Parnell, 1999) that define each stage, top-level management teams can proactively employ the life cycle construct to stay competitive in the face of threatening environments.

Organizational life cycle determination begins with the situation. *Situation* refers to an organization's overall make-up, including size, age, dilution of ownership, locations, the number of markets served, and heterogeneity (Miller & Friesen). *Decision-making methods* are the heart of the administrative personality of an organization, varying according to the amount of participation and number of decision makers. Organizational *structure* tends to progress from simple to complex, from the one-manager firm to the multi-layered multinational firm. Of particular importance to structure are the factors of information processing procedures, decentralization of authority, and departmental differentiation (Lester, Parnell, & Carraher, 2003). Research indicates that each become more complex through the first four stages of the life

cycle. *Strategy* is top management's plan to accomplish the goals and mission of the organization.

Based on the work of Churchill and Lewis (1983), Miller and Friesen (1984), and others, a previously empirically tested five-stage life cycle model for organizations to follow (Lester, Parnell, & Carraher, 2003) was utilized in this study. A brief description is provided for each stage, beginning with stage one, *existence* (Churchill & Lewis, 1983). Also known as the entrepreneurial stage (Quinn & Cameron, 1983) or birth stage (Lippitt & Schmidt, 1967), existence is characterized by a firm's struggle to achieve viability. Decision-making is in the hands of one or a few members, while ownership is concentrated. Organizational structure is simple, as most firms are quite small in terms of revenues and number of employees. In this stage, management's top concern is finding enough customers and cash flow (Dodge & Robbins, 1992) to prove the business is viable.

Stage two is *survival* (Churchill & Lewis, 1983). Growth (Adizes, 1979; Downs, 1967) is the primary goal for many firms in this stage. The simple structure is gradually replaced with one that emphasizes the role of managers and promotes a division of labor. Fast-growing firms strive to become large enough to achieve some economies of scale. However, Churchill and Lewis (1983) indicated that some organizations never move beyond the beginnings of this stage, either choosing to stay relatively small for control purposes (sometimes referred to as the founder or family trap [Hanks, 1990]), or finding that growth cannot be sustained. Many firms in the latter instance simply go out of business, while others revert to the existence stage. However, most survival firms have achieved a level of revenue secure enough to feel comfortable investing in expansion

and growth, a finding consistent with Hrebiniak and Joyce (1985), who found that growth firms view their environments as neither threatening nor constraining.

Stage three is *success* (Lester, Parnell, & Carraher, 2003; Churchill & Lewis, 1983). In keeping with the biological underpinnings of life cycle theory, it is referred to as maturity (Miller & Friesen, 1984; Scott & Bruce, 1987; Smith, Mitchell, & Summer, 1985) by many researchers. Firms in the success stage develop more formal organizational structures with job descriptions, hierarchical reporting relationships, and policies and procedures that remove much of the flexibility enjoyed in earlier stages. The success stage is characterized by large firms that experience flat or relatively low-growth revenues (Jawahar & McLaughlin, 2001) and operate bureaucratically, with information processing procedures emphasizing formal controls (Miller & Friesen, 1984). Due to an emphasis on operational efficiency (Miller & Friesen, 1984), many organizations in this stage generate excess cash and do not find it difficult to raise capital (Dodge, Fullerton, & Robbins, 1994).

Stage four is *renewal*. Some organizations attempt to regenerate themselves as a reaction to the bureaucracy and lack of innovation that govern operations during the success stage. The goal is to return the firm to a leaner (Quinn & Cameron, 1983), more innovative era (Miller & Friesen, 1984), while striving to jump-start revenues through expansion without losing the large market share already amassed. One way this goal is accomplished is through the utilization of project teams, task forces, or cross-functional teams that are a key element of the matrix organizational structure. Additionally, the centralized decision making of the success stage is replaced

with a more customer-centric decentralized decision-making process that is facilitated by a sophisticated information processing system (Lester, Parnell, & Carraher, 2003).

Stage five is *decline*. As Miller and Friesen (1984) concluded, firms in decline failed to confront external challenges while engaged in a different life cycle. This failure results in the loss of profit and market share, many times emanating from a lack of innovation. This situation leads to a focus on internal power struggles and consequently, a lack of focus on the customer (Mintzberg, 1984), with decision-making becoming very centralized. The struggle for power is related to a desire for personal rewards on the part of top management. While the decline stage of an organizational life does not spell certain death, it does require a turnaround (Mintzberg, 1989) or revolutionary change in strategy, structure, decision-making style, and situation for a successful return to a more stable or growth stage.

THEORY AND HYPOTHESES

Some organizational life cycle stages are characterized by growth while others are characterized by stability or decline. Miller and Friesen (1984) used a 15 % annual increase in revenue for a growth measure. Organizations in stages two and four (survival and renewal) were defined as growing by greater than 15%, and those in stages three and five (success and decline) were defined as growing by less than 15%. Once an organization's life cycle stage has been identified, the question becomes "are there other factors that help or hinder an organization's ability to grow, and what relationship does its life cycle stage have with relation to perceived satisfaction with performance?"

If the organizational life cycle is to be a useful tool for top management, more empirical research into the construct must be conducted. Whether managers are making decisions based on external pressures or choice (Hrebiniak & Joyce, 1985), altering one or more of the four components that define the organizational life cycle can transition a firm from one stage to another (Lester & Parnell, 1999), sometimes, very quickly. Miller and Friesen's (1984) work made it clear that while most firms generally follow the prescribed life cycle, many do not, somewhat debunking the deterministic depiction of the life cycle. Examples of firms that jumped back and forth from one stage to another include Sears, Waltham, Macy's, Unilever, Yellow Freight, and Ayer (Miller & Friesen, 1984, p. 1183).

Strong evidence exists to support the important role of innovation and change in the two defined growth stages, survival and renewal (Hanks, 1990; Lester, Parnell, & Carraher, 2003; Miller & Friesen, 1984) and in stage one, existence. McCann (1991) noted that organizational change can fall into the category of four types, including: products and services, structure and systems, people, or technology. These are the types of changes normally found in growing organizations. While technology has become a primary driver of change in many organizations (Kazanjian, 1988), it is also an integral part of change itself. Sophistication of information processing has led the way in improving customer service, logistics, operations, and just about every other aspect of the firm. However, innovations, major ones in particular, are most often recognized as product- or service-oriented. This leads to the first hypothesis.

H1: *Firms in the growth stages of the organizational life cycle (stages one, two, and four) perceive their*

organizations to be more innovative than firms in the no- or low-growth stages (stages three and five).

The second issue of concern is the role of the external environment, such as the choice versus determinism issue. While Child (1972) invoked the concept of strategic choice, Hrebiniak and Joyce (1985) demonstrated that choice is constrained. However, regardless of the constraints, some top management teams continue to outperform those of other organizations, often due to the free will and creative activity of their firms and their decision-making (Bourgeois, 1984; Hurst, Rush & White, 1989). Regardless, one should not discount the relevance of environmental factors to decision making, since top managers must make some sense out of their task environment (Daft & Weick, 1984; Dess & Beard, 1984), particularly when it appears to be threatening and changing (Emery & Trist, 1965), as it does to many start-up managers and to those of organizations in decline. This role of external environmental threats leads to the second hypothesis.

H2: *Firms in existence and decline (stage one and five) of the organizational life cycle perceive the external environment to be more threatening than those in the survival, success and renewal (stages two, three, and four) stages.*

The final issue of concern in this study is perceived satisfaction with performance. Specifically, the question becomes, "are firms that are growing more satisfied with their performance than firms that are experiencing low- or no-growth?" An earlier study (Lester, Parnell, Crandall, & Menefee, 2008) found respondents from growing firms with first- or second-mover strategies in the survival and renewal life cycle stages more satisfied with their firm's performance than respondents

from firms in success or decline. This leads to the third hypothesis.

H₃: *Firms in survival and renewal (stages two and four) are more satisfied with their performance than firms in existence, success, and decline (stages one, two, and five).*

METHODS

Members of several chambers of commerce in the southeastern region of the United States were invited to participate in an online survey. Specifically, the largest chambers in each of six North Carolina counties—Bladen, Columbus, Cumberland, Moore, Richmond, and Robeson—assisted in the survey by inviting their members to participate in the study. Collectively, these counties represent a region of the United States marked by considerable job losses in recent years due to outsourcing and offshoring. Some of the lost jobs have been replaced by new ones in moderate and high technology areas, but economic development remains a concern in the southeastern region.

A total of 107 usable responses were obtained from members, including 24 whose businesses were self-identified as high technology; 57, moderate technology; and 24, low technology. The mean firm age was 32.4 years, with a range spreading one to 139 years. Organizations of various sizes were represented, with 20.6% of the respondents reporting annual sales of less than \$500,000, 12.1% of the respondents reporting sales in excess of \$25 million, and the remainder reporting sales in between the two extremes. In addition, 33.6% reported fewer than 10 employees, 24.3% reported more than 100 employees, and the remainder reported numbers falling in between the two extremes. Thus, by common standards, most firms represented would be considered small- or medium-sized enterprises (SMEs).

Organizational life cycle stages were self-reported, and respondents were asked to place their organizations in one of five categories. As depicted in Table 1, there were 37, 34, 23, and 10 respondents who placed their firms in existence, growth, survival, and renewal stages, respectively. No respondent placed his or her firm in the decline stage.

Performance satisfaction was measured based on the results of a four-item scale that examined satisfaction with current profitability, growth, goal attainment, and overall financial performance relative to others in the industry. These four items were factor-analyzed and produced loadings of .845 for current profitability; .878, growth; .801, goal attainment; and .896, overall financial performance, with a coefficient alpha for the scale of .874.

Industry innovation and change was measured by a three-item scale developed specifically for this study. Respondents were asked the extent to which innovation is very common in his or her firm's industry, the extent to which products and processes change frequently, and the degree to which changes in technology are a key factor. These three items were factor-analyzed and produced loadings of .893 with respect to the extent innovation is common in his or her industry; .904, the extent to which products and processes change frequently; and .816, the degree to which changes in technology are a key factor, with a coefficient alpha for the scale of .837.

Competitive intensity was measured on the basis of a three-item scale that assessed whether the business environment, tough price competition, and the quality or novelty of competitors' products were seen as threatening to the firm. The scale was based on Pelham and Wilson's (1996) scale, which was adopted

Table 1: Organizational Life Cycle Categories

LifeCycle	OrgTech (1-high, 2- mod, 3- low)	Revenues (5 categories)	Employees (5 categories)	FirmAge	SIZE: Small if Revenues +Employees=1,2 ; Medium is 4,5,6,7, Large if 8,9,10	Factor Score for 3 Innovation & Change Items	Factor Score for 4 Performance Satisfaction Items	Factor Score for 3 Environmental Threat Items
Existence	Mean N Std. Deviation	2.32 37 0.669	1.75 36 1.251	20.62 37 20.534	1.56 36 0.695	0.4803483 37 1.10794932	0.3913604 37 0.77663726	0.3355293 37 0.90509728
Survival	Mean N Std. Deviation	1.88 34 0.640	2.74 34 1.355	34.35 34 31.142	2.09 33 0.631	-0.2431062 34 0.78186510	-0.2765242 34 1.06901135	-0.0914856 34 0.93217771
Success	Mean N Std. Deviation	1.61 23 0.583	3.17 23 1.154	40.61 23 25.384	2.22 23 0.850	-0.5677681 23 0.86018073	-0.3558729 23 1.10217354	-0.4308698 23 1.09348028
Renewal	Mean N Std. Deviation	2.10 10 0.568	3.90 10 1.449	49.70 10 25.373	2.60 10 0.843	0.2195419 10 0.58454490	0.3473626 10 0.76939919	-0.0378698 10 1.04477921
Total	Mean N Std. Deviation	2.00 104 0.683	2.87 103 1.319	32.33 104 27.334	1.98 102 0.796	-0.0130382 104 0.99583436	0.0035294 104 1.00418527	-0.0094676 104 1.00010281

Table 2
ANOVA: Comparisons Across Life Cycle Stages

Variables		F	Sig.
Org. Tech * Life Cycle	Between Groups (Combined)	6.651	0.000
	Within Groups		
	Total		
Revenues * Life Cycle	Between Groups (Combined)	12.183	0.000
	Within Groups		
	Total		
Employees * Life Cycle	Between Groups (Combined)	9.508	0.000
	Within Groups		
	Total		
Firm Age * Life Cycle	Between Groups (Combined)	4.867	0.003
	Within Groups		
	Total		
SIZE: Small if Revenues +Employees=1,2,3; Medium is 4,5,6,7, Large if 8,9,10 * LifeCycle	Between Groups (Combined)	7.569	0.000
	Within Groups		
	Total		
Factor Score for 3 Innovation & Change Items * LifeCycle	Between Groups (Combined)	7.336	0.000
	Within Groups		
	Total		
Factor Score for 4 Performance Satisfaction Items * LifeCycle	Between Groups (Combined)	4.513	0.005
	Within Groups		
	Total		
Factor Score for 3 Environmental Threat Items * LifeCycle	Between Groups (Combined)	3.084	0.031
	Within Groups		
	Total		

Table 3
ANOVA: Tests of Hypotheses

LifeCycle	Factor Score for 3 Innovation & Change Items	Factor Score for 3 Environmental Threat Items	Factor Score for 4 Performance Satisfaction Items
Existence (n=37)	0.4803	0.3355	0.3913
Survival (n=34)	-0.2431	-0.0914	-0.2765
Success (n=23)	-0.5677	-0.4308	-0.3558
Renewal (n=10)	0.2195	-0.0378	0.3473
Total (n=104)	-0.0130	-0.0094	0.0035
ANOVA f statistic	7.336	3.084	4.513
ANOVA Significance	0.000	0.031	0.005
Linear relationship	Yes	Yes	No
Non-linear relationship	Yes	No	Yes
Hypothesis test result	(H1) f stat.=10.347 significance=.002	(H2) f stat.=1.549 significance=.216	(H3) f stat.=7.895 significance=.006
Hypothesis supported	Yes	Yes	No

from Khandwalla's (1977) study. These three items were factor-analyzed and produced loadings of .820 for business environment; .880, tough price competition; and .625, quality or novelty of competitors' products, with a coefficient alpha for the scale of .677.

Factor scores (regression method) were computed to serve as composite measures of performance satisfaction, industry innovation and change, and perceived competitive threat.

FINDINGS

Table 2 summarizes comparisons among organizations in the four life cycle stages. Respondents were asked to place their organizations in categories for revenues (less than \$500,000, \$500,000-\$1 million, \$1-5 million, \$5-25 million, and over \$25 million) and number of employees (fewer than 10, 10-24, 25-49, 50-99, and 100 or more employees). Respondents also reported founding years. Revenues, total employees, and firm age served as validity checks for the life cycle categories. As expected, existence firms were the

youngest and reported the lowest revenue and employee levels.

The analysis of variance (ANOVA) technique was applied to test for significant differences among the four groups in terms of revenues, total employees, and firm age, as well as the factors of interest in this study: performance satisfaction, innovation and change, and competitive intensity. All differences were significant at the 95% confidence interval.

Table 3 summarizes ANOVA results as they pertain to the three hypotheses. The first five rows provide mean factor scores for each of the three constructs assessed for firms in the first four life cycle stages. The ANOVA *f* statistics demonstrate that significant differences were found when life cycle groups were compared along each of the constructs. Results for the hypothesis test assess the significance of these differences in the directions previously suggested.

DISCUSSION AND IMPLICATIONS

The first hypothesis concerned firms in existence, survival, and renewal (stages one, two, and four), predicting innovation and change would be higher for them than for firms in success and decline (stages two and five). This hypothesis was supported. This study's finding—that existence and renewal firms have high factor scores for innovation and change—supports earlier contentions in the literature (Hanks, 1990; Lester, Parnell, & Carraher, 2003; Miller & Friesen, 1984). Existence firms tend to be more innovative than those in any other stage, as they try to enact or create their own competitive environments (Bedeian, 1990; Daft & Weick, 1984). Renewal firms, tired of being mired in excessive bureaucracy and of experiencing low- or no-growth revenues, seek lost innovation and corporate entrepreneurship to jump-start their organizations. While some achieve this renewal through acquisition of other firms, innovative activity is usually a key factor. Survival or stage two firms did not score high in this study on innovation and change. This result supports the findings by Miller and Friesen (1984) that growth or second stage firms practice incremental improvement in products and services, rather than dramatic or major innovative changes.

The second hypothesis related that existence and decline firms (stages one and five) would perceive the environment to be more threatening than survival, success, or renewal firms (stages two, three, and four). This hypothesis was also supported. While organizations in the decline stage could not be assessed, those in the existence stage clearly perceived the highest amount of environmental threat. Existence firms have limited resources with which to confront competition, as they attempt to prove viability (Lester, 2004) in the market

niche they have chosen. Being relatively new, having few employees, and experiencing low revenues contribute to a tenuous state where one bad mistake by management could put the firm out of business. Firms in survival, success, and renewal, however, generally have established business models, strong customer bases, and more resources, all of which will lessen the impact of environmental threats.

The third hypothesis indicated that survival and renewal firms (stages two and four) are more satisfied with their performances than those organizations in existence, success, or decline (stages one, three, and five). The third hypothesis was not supported. The somewhat surprising finding was that existence and renewal firms were most satisfied with their performance, while survival and success firms were much less satisfied. This finding corresponds to the innovation and change finding, as existence and renewal firms scored highest on both factors. One possibility for this finding could be that existence and renewal firms invest heavily in innovative activities to secure higher sales and new markets, creating a corporate culture of change (Quinn & Cameron, 1983) and sometimes, excitement. Whether this innovative activity is beginning to pay off or not, there is a sense that something positive is happening within the organization. Survival firms did not score high on performance satisfaction, possibly since there is a strong tendency for some firms in this stage to go through spurts of growth by choice, limiting the number of resources that are committed so that profits may be taken. Success firms are also somewhat more bureaucratic and hierarchical (Miller & Friesen, 1984), making change challenging, which could be a contributing factor to a perception of poorer performance. As for those firms that are growing quickly, this growth

requires regular investment to be sustained, often dimming the perception that performance is truly outstanding.

FUTURE DIRECTIONS

The present study examines the life cycle stages of 107 organizations in six contiguous North Carolina counties. Respondents identified the importance of innovation and change in their industries, their perceived satisfaction with performance, and their perceived level of environmental threats. Support was found for four of the five proposed life cycle stages, with none of the respondents indicating that their organizations were in the decline stage. Firms in stage one (existence) and stage four (renewal) reported high scores for innovation and change in their industries, along with a high level of satisfaction with performance. Stage one (existence) firms also reported the highest amount of perceived threat from the environment, while firms in stage three (success) reported the lowest.

The findings of this study are a starting point for further inquiry regarding the relationship between the organizational life cycle and innovation. Specifically, firms in the existence or renewal stage need to be examined closely for patterns of organizational culture, decision making, structure, or strategic direction that encourage innovative activity. Findings from such research would be instrumental in helping large and small organizations avoid common pitfalls, such as complacency in the case of success firms and environmental threat for existence firms. Innovation is being hailed by researchers and practitioners alike as the key to earning above average returns in the competitive climate found in most business arenas, and this study demonstrates that existence and renewal firms are leading the way in innovative

activity and organizational change. While traditional organizational life cycle research sought to provide managers with a framework or blueprint for decision making, such as when to add managers, change strategy, or alter structure (Hanks, 1990), the real value might be in how to avoid decline or even demise through the promotion and development of an innovative culture.

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