Matching Innovation Strategy to the Lifecycle of the Firm

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This exploratory study looks at the innovation strategies employed during specific stages of the firm lifecycle for small businesses. The study locates and uncovers seven themes surrounding the intersection of innovation strategies and the different stages of the firm. In so doing, future directions to answer the questions uncovered by this exploratory study are suggested.

INTRODUCTION

The challenge isn't to keep your eye on big competitors. It's to pay attention to the innovators.
--Dave Duffield, People Soft

Innovative genius is 1% inspiration and 99% perspiration
-- Thomas Edison

As the cofounder and former chairman and CEO of the People Soft corporation suggests, small firms are crucial to the development of new ideas, technologies, and actions across industries today (Fast Company,1998). These small firms are not as common in capital-intensive industries such as auto manufacturing, aerospace, and oil research, but they play major roles in newer technology industries, including telecommunications, biotechnology, and medical equipment (Small Business Office of Advocacy, 2004). While they influence one set of industries directly, other industries are dependent on these smaller firms' discoveries and inventions.

The Small Business Administration's Office of Advocacy conducted research on 1,270 innovative companies between the years 2000 and 2002 (Small Business Office of Advocacy, 2004). The research report shows that actively innovative firms, defined as firms with more than 15 patents during the previous five years, increased. During the time, 104 firms dropped from the actively innovative list, while 318 firms were added. Small firms represented 33% of the actively innovative firms in 2000, and 40% in 2002. The newer technology industries, i.e. telecommunications, biotechnology, and medical equipment, had a higher than anticipated number of citations held by large firms of small firm patents. This suggests that small firms are important to innovation, even though they are not credited or even responsible for the final technology.

Hamel (1998) posited the idea that as industries move from the industrial age to the information age, change will be a constant and innovation will be the driver. These small, entrepreneurial firms are distinctly poised to take advantage of such a change. Indeed, entrepreneurship can be termed as the identification and exploitation of previously unexploited opportunities in order to bring new goods, services, and processes to the marketplace (Shane, 2003; Hitt, Ireland, Camp, & Sexton, 2001; Venkatraman, 1997). In fact, successful entrepreneurs notice the possibilities that others seem to miss and bring then develop competitive advantages to exploit them (Hitt & Ireland, 2002; Hitt, et al., 2003). Therefore, given the need for change and innovation, what strategies do entrepreneurial firms employ? Furthermore, given the need for change and innovation do those strategies change based on the stage of development of the firm?

This exploratory study hopes to develop a framework of the strategies that entrepreneurial firms incorporate during the stages of development of the firm. First, we define the stages of development, followed by an explication of the emergent themes of the exploratory study. The final portion of this paper is to develop an innovation strategy framework for each stage of development of the firm from the emergent themes of the exploratory study.

Life Cycle

Theorists studying organizational life cycles have long been interested in how a firm's stage of development shapes its overall behavior. Chandler's (1962) seminal work on organizational life cycles contemplated the relationship between the stages of a firm's development and the transformation of the strategies while progressing through those stages. Since this work, researchers have focused on the relationship between stages of the organizational life cycle and the particular variables in question. Examples of these relationships are organizational effectiveness (Quinn & Cameron, 1983), top management priorities (Smith, Mitchell & Summer, 1985), human resource practices of organizations (Liao, 2006; Milliman, Von Glinow, & Nathan, 1991), importance of stakeholders at each stage of the life cycle (Jawahar & McLaughlin, 2001), and even the problems of small business in each stage of the organizational life cycle (Dodge & Robbins, 1992).

Researchers developed several models of the organizational life cycle, depending, often, on the specific occurrences under investigation (e.g. problems, decisions, structure). Cameron & Whetten (1981) suggested that the main reason for the development of an organizational life cycle is the possibility to predict problems, decisions, or even opportunities of the organization and then provide appropriate responses. Miles (1980) commented that literature, to that point, had focused on static assessments of mature organizations, while almost nothing researched the processes or patterns of learning or decision making as the organization progresses from creation to maturity. Therefore, an entrepreneurial life cycle model must have enough stages of small and medium sized organizations to provide distinct information about the unique emphases and contexts in that stage. The cycle must also be parsimonious, so as not to render it useless in practicality.

These conditions on the entrepreneurial life cycle bring particular assumptions. The first basic assumption is that homogeneity occurs in organizational development and that the homogeneity segments into distinct stages (Quinn & Cameron, 1983). This homogeneity assumes that organizational activities and structures in one stage are not the same as the activities and structures in the preceding or following stage. Therefore, each stage is heterogeneous from other stages, but homogenous within the stage. Despite no definite trigger points to move from one stage of development to another these stages of the entrepreneurial life cycle is assumed distinct.

Many models of organizational life cycle base their development in the integrative model based on nine different, but empirically supported, models of organizational life cycles proposed by Quinn and Cameron (1980). Their model like many others consisted of four general phases: a creative or entrepreneurial stage, a growth or expansion stage, a domain protection or expansion stage, and a stability stage. Thus, by adapting the stages from Quinn and Cameron's model, and in an effort to be parsimonious the two expansion stages combined to yield an entrepreneurial life cycle with three distinct stages: emergence, growth, mature. A description of each stage follows:

Stage 1: Emergence

Turning a business opportunity into an actual business entity characterizes this stage. During this stage of development, the owner-manager concerns her/himself with conversion of the opportunity or idea into reality, refining the opportunity or idea based on evaluation, securing resources (financial, and otherwise), and taking the necessary steps to become an entity. The strategic concerns in this stage of the firm are identifying, evaluating, and exploiting the opportunities. These processes coupled with market entry and management team are the foundation to take the firm into its next stage of development.

Stage 2: Growth

In this stage, the firm establishes with strong positive growth with a feasible product or service. While some standardization of product or service takes place, there is still high amount of uncertainty, making it vital to monitor industry and market to adapt initial strategies to major changes. The strategic concerns in this stage involve nurturing growth through the building of networks, between both suppliers of goods and services and suppliers of financing (Overbeck, 1984). Typically, problems incurred during this growth stage involve stabilizing reliability of products and processes, matching increases in demand, maintaining cash flow, and formalizing organizational structure (Greiner, 1972). Overcoming these issues while simultaneously continuing the implementation of the opportunity or idea, push the new venture through this stage of development.

Stage 3: Established

Standardized products and processes that are very efficient with a high cost of change characterize this stage. Jawahar and McLaughlin (2001) suggest that firms in this stage have strong cash flows with fewer attractive investment opportunities. A lack of continuous growth and discovery in earlier stages, force the firm to work even harder to overcome the lack of inertia. Nadler & Tushman (1990) stated that congruence internally among strategy, structure, and culture drives short-term organizational performance. The ability to maintain the status quo effectively helps the firm learn and grow. However, as the firm becomes established this congruence builds both a structural inertia – a resistance to change due to size, complexity, and interdependence between segments of the firm, and cultural inertia – a resistance to change based on the norms, values, and stories of the firm.

It may be possible for firms to increase in size as they evolve through the life cycle, but they do not increase in size at the same rate, resulting in a size variation between firms in the same life cycle.

EXPLORATORY STUDY

The sample size for this exploratory study was seven. All seven case studies involved the owners of the businesses. Most of the owners had always been the owners with two having taken the firm over completely when the original partner retired. The mean age of the firms was approximately 20 years. The firms concentrated in the construction industry in a mid-sized southwestern city and county. The interviews took place on at least two different occasions, with more directed questions during the second interview. Analyzation of the transcripts involved at least two coders to increase validity.

The qualitative analysis approach (Miles & Huberman, 1994) allows for interviews of respondents to be broken down to determine the abstracted patterns to emerge. In this case, although literature provides a basis for the suppositions we allowed the data to stand on their own in the creation of new typologies if necessary. The analysis used two reviewers to remove interviewer bias and to corroborate the coding process. While an initial understanding was provided for the reviewers, the qualitative analysis approach and coding process was left to the individual reviewers.

RESULTS

Utterback (1984) suggested that the emerging stage of the firm lifecycle would necessitate an understanding of the necessity of the firm within the areas of innovation, product, and process. With these areas in mind, an emerging firm in a mature industry will by necessity need to maintain vigilance to the specific requirements of the future product or processes that they will produce. The entrepreneurs interviewed suggested the method by which they determined those specific requirements. That led to the following emergent theme:

THEME #1: Imitative Innovation Strategy Used During the Emergence Stage of the Firm Life Cycle

This emergent theme is represented by two of the cases mentioning the start of their own firms.

> *I started the company when I was 19. I started off working for my brothers. They are all older than I am in the whole building business. I started the business when I was fairly young and started it all by myself as far as staff is concerned. I have staff now, but I had no staff at that point. - Interviewee #1*
>
> *Well, ok. How did I get started? I got it from my dad, in a way. He [worked for the city] and had an agreement with the city that he could do [this work] on the side, as well. He did not very much but some. So then, I [worked for the county], and had the same agreement with them that I could carry on this work. - Interviewee #4*

In both of these instances, the entrepreneurs mention getting their starting ideas and plans from family. These ideas were not original by industry standards, necessarily, but were new to the beginnings of these firms.

As the opportunities are recognized, evaluated, and eventually exploited, the firm must be flexible in addition, willing to try new and different activities and ideas. In this stage of the firm, the strategies undertaken may also shift and change according to the activities or ideas presented.

THEME #2: Evolutionary Innovation Used in the Emergence Stage of the Firm Life Cycle

> *...I do home inspections for people buying homes. I kind of fell into that about it's been almost twenty years. A realtor called me up and said, [sic] you build houses. These people are moving here from back east and they want to suddenly look at this house before they moved in. So, I went over and checked it out and charged 'em fifty dollars.*
> *- Interviewee #5*

This case is representative of the innovation strategy of taking an idea and modifying that idea in order to do it better. In this case, the specialized knowledge from building houses provided this entrepreneur with a new opportunity. This opportunity turned into a business of more than 20 years.

As the firm moves into the growth or transitional stage of the lifecycle, the focus for growth is on the ability to transition into the best practices for the firm. Generally, the processes transform as better processes or better products become apparent. The challenges at this stage are to refine and upgrade both the product offerings as well as the processes surrounding those offerings.

THEME #3: Improvement of the Core Business Used in the Growth Stage of the Firm Life Cycle

> *When we started building homes they all had eight-foot ceilings and they were all brick veneer and they all had pitched either rock or shingle roofs. Well today nothing that we build is brick, everyone wants contemporary Southwest or Santa Fe style home with a stucco type exterior, ...that has a pitched roof that's covered with tile not shingle and we never put an eight foot ceiling ...all of our homes have high ceilings, any where from nine feet to twenty five feet high ... every two or three years the colors change, the products change... - Interviewee #2*

This case shows how the entrepreneur recognizes specifics that change and the need to be flexible. These innovations developed after the original products and most likely processes were in place. This is an acknowledgement by this entrepreneur of the need to be flexible and resilient in order to pay close attention to the needs of the customer and the competitors.

THEME #4: Exploitation of Strategic Advantages Used in the Growth Stage of the Firm Life Cycle

> *…even using the exact same products and sub-contractors and all that, the final product is look different from one another to us and so a lot of those details of the product is what differentiates us from the competition. What our company tries to do on our homes is we get new ideas and new concepts and we try to incorporate them into the houses and try and develop an end product that will meet peoples' needs. - Interviewee #4*

> *… small builders have to adjust when that type of competition comes in they build an entry level to mid level house and there's no possible way that a local builder can match them on price because they buy fifty thousand dish washers at a time. On the other hand, their product doesn't have quite the quality to it or, or maybe not some of the features that a custom builder can do, so you have to adjust as you look at the market and the competition. - Interviewee #1*

These cases show that these entrepreneurs recognize that competition does exist but by maintaining innovative strategies that they are able to exploit their strategic advantages to leverage both a unique brand, as in the incorporation of new ideas and new concepts, or to reach a distinct customer, as in the custom builder. In both cases, the innovative strategy of incremental or evolutionary innovation works.

THEME #5: Development of New Capabilities Used in the Growth Stage of the Firm Life Cycle

> *… the basic business plan I have is if real estate sales go my home inspection business goes up and remodeling will slow down because people aren't keeping their homes. And if real estate slows down people keep their homes and my remodeling will go up but my home inspection will drop. That is the plan and I can do something that would equal out depending on the changes in the construction business, the construction market, and the real estate market. - Interviewee #5*

In this case, the entrepreneur has almost two businesses going depending on the current market conditions. This is a revolutionary innovation strategy. While this business does have expertise in two different market areas, neither one would sustain it alone if the market conditions turned. For this reason, the entrepreneur has created a revolutionary sustainability for his firm.

THEME #6: Creation of Revolutionary Changes Used in the Growth Stage of the Firm Life Cycle

> *We started out doing spec. homes, custom homes for lots of people. We used to do residential remodeling. I got out of residential remodeling 5-6 years ago and started focusing on commercial. Small commercial: that is tenement improvement, mall buildings, is pretty much 100% of the business now. I am only in commercial and I have a niche, I have a customer-base. They don't call and check prices, they call me. I know them all personally and I am not affected by the same thing [as custom builders].*
> *- Interviewee #2*

In this case, the entrepreneur recognized a particular niche of the market that was not filled and moved to fill that niche. The entrepreneur totally revolutionized the current product and the service offerings in order to corner this niche. In doing so, the entrepreneur created his own customer base that allows an alliance to alleviate the vicissitudes of the market conditions. Similar to the revolutionary innovation for the entrepreneur with two businesses, this innovative move contains much more risk but seems to have paid off for the higher potential.

The mature firm shifts focus from growth to stability. Changes, in general and in innovation specifically, are largely incremental. That is there is very little shift from the best practices found during the growth stage. In this stage, the entrepreneur may be searching for an exit strategy as well as maintaining the firm's overall sustainability. Because of previous efforts, change even for the sake of innovation is capital intensive and would require large shifts in the overall structure of the firm.

THEME #7: Evolutionary Innovation Used in the Mature Stage of the Firm Life Cycle

> *The jobs started to suffer because I took on too much. Now I have reached the point where I realize sometimes its better to turn away work than to have somebody who is upset because there is a job that I just cannot manage or a job I am not going to make money on. - Interviewee #3*

> *So that's the story. And slowly I've gone from being a fieldworker to more of a supervisor and the home inspector. Which is fine with me because I really I'm fifty-five now. I don't want to be beating nails in the hot sun anyway. - Interviewee #6*

> *I think we need to continue to diversify a little bit and do different niche markets we can find a need in and fill that need with a certain product instead of going out and building houses and trying not to say, "Plan A will work for everyone no matter what that person says." But instead, trying to make what people want and what people need and adjusting our product to fix that. - Interviewee #2*

In these cases, the entrepreneurs suggest that at this time in the life of their firm they are not looking for changes (Interviewee #6) or looking for small changes in the case of the other two. This suggests that while still important it is at this time of the stage of the firm that changes will not be as beneficial to the entrepreneur or to the firm. The following statement sums that point well:

> *Typically, when there is change, technologic change, it is that same kind of protecting your turf mentality that I see a lot in business. That is the way we've always done it, you know, but somehow I've escaped that. As I get older I find that it is a little harder to motivate myself to take on new technology or to you know, but the logic of it is inescapable. - Interviewee #4*

FRAMEWORK DEVELOPMENT AND FUTURE DIRECTIONS

The purpose of this exploratory study was to determine the effectiveness of a comprehensive look at innovation strategies across the lifecycle of the firm. Overall, this exploratory study uncovered many interesting insights for the entrepreneurial community. Fortunately, it revealed as many questions as it answered. While only a small sample, this look into the segment of entrepreneurship does prove interesting. The conclusion would easily be that a confirmatory study that included different industries is also warranted.

Another much more substantial claim is that innovation does occur in a variety of ways and for a variety of reasons. The strategies undertaken by the entrepreneurs in this exploratory study were subtle but nonetheless present. Imitative innovation strategies seem to occur in the beginning of the creation of a firm, but do not seem present in other stages of the lifecycle of the firm. Is this consistent across industries or only in this industry? Another confound may be in the size of the firm. In this study, the entrepreneurial firms contained less than 10 employees. Do larger firms attempt to imitate innovation before moving away from that strategy?

Evolutionary innovation is the most recognizable innovation strategy. The incremental nature of the learning that takes place is easily recognizable. In this study, it did seem to occur throughout the lifecycle of the firm. The unique component is the reason for undertaking this type of strategy during the growth stage. In both the improvement of core business and exploitation of strategic advantage, the evolutionary innovation strategy appears promising. Is this the only innovation strategy that accomplish this task, or would another strategy work as well or better? Is the fact that evolutionary innovation is the most recognizable strategy overshadow other more effective strategies?

Finally, revolutionary innovation strategies are effective during the growth stage of the firm for developing new capabilities and realizing high potential with high risk. However, this strategy was not found in other stages of the firm. Does such a finding suggest that revolutionary strategy is not a part of the creativity of realizing an opportunity and exploiting it? If a firm survived until the mature stage, is revolutionary innovation no longer considered? Is this a component of the maturity of the entrepreneur, or is it related to the firm?

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