Association for Information Systems AIS Electronic Library (AISeL)

AMCIS 2012 Proceedings

Proceedings

Can Strategic Entrepreneurship Profiles Predict Innovation? Towards a Theory of Innovation-Prediction Categories using Entrepreneurship Schools of Thought

Christine Custis Morgan State University, Upper Marlboro, MD, United States., ccustis@yahoo.com

Robert Singh Morgan State University, Upper Marlboro, MD, United States., chcus2@morgan.edu

Follow this and additional works at: http://aisel.aisnet.org/amcis2012

Recommended Citation

Custis, Christine and Singh, Robert, "Can Strategic Entrepreneurship Profiles Predict Innovation? Towards a Theory of Innovation-Prediction Categories using Entrepreneurship Schools of Thought" (2012). *AMCIS 2012 Proceedings*. 14. http://aisel.aisnet.org/amcis2012/proceedings/StrategicUseIT/14

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2012 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Can Strategic Entrepreneurship Profiles Predict Innovation?

Towards a Theory of Innovation-Prediction Categories using Entrepreneurship Schools of Thought

Christine Custis Morgan State University Earl G. Graves School of Business chcus2@morgan.edu Robert P. Singh Morgan State University Earl G. Graves School of Business rsingh@morgan.edu

ABSTRACT

The purpose of this paper is to present the relationship between an entrepreneur's choice of strategy and the innovative capacity of his/her new venture. The principal proposition of this exploration is that entrepreneurs that identify more readily to either the design or learning strategy formation school of thought will lead organizations that experience more innovation during the life of the firm. The schools of thought considered in this paper refer to the strategy formation categorizations presented by Mintzberg et. al (1998).

Keywords

Entrepreneurship, Organizational Strategy, Technological Innovation.

INTRODUCTION

According to a 2011 White House report from the National Economic Council, Council of Economic Advisers, and Office of Science and Technology Policy, the high and sometimes prohibitive cost of internal research and development and the speed with which new concepts come to market are increasing the pressure on entrepreneurs to achieve breakthrough innovations, ideas, and technologies. To achieve desired results in this environment, an entrepreneur must have as a part of his or her overarching strategy a model of open innovation. Open innovation (Chesbrough, Vanhaverbeke, and West, 2006) is a combination of inputs of knowledge that can positively affect the organization's internal innovation as well as outputs of knowledge that can "expand the markets for external use of information" (p. 1). It is presented in this paper that an entrepreneur's choice of an innovation-focused strategy can serve as a useful platform from which successful innovation can propagate.

Kuratko and Audretsch (2009) write that a strategy that is entrepreneurial in nature allows for the application of creativity and entrepreneurial thinking towards the core firm strategy. This dimension of strategic management involves initiative taking and some acceptance of risk and failure. Strategy also serves as a platform for the evolution of corporate vision which directs the firm. Innovation can therefore be considered the source of growth and competitive advantage. Ireland, Hitt and Sirmon (2003) state that, "Exploiting entrepreneurial opportunities contributes to the firm's efforts to form sustainable competitive advantages and create wealth." (p. 965). In their theoretical model, they present the interaction of the entrepreneurial mindset, culture, and leadership as an input into the strategic management of resources which affects the application of creativity and the development of innovation towards the competitive advantage of the firm with a final result of wealth creation. In other words, the way the entrepreneur manages is the personification of strategy within the new venture. It directly affects the success of creativity and innovation.

Mintzberg and his colleagues (1998) discussed ten schools of thought relating to strategy formation. They include the design, planning, positioning, entrepreneurial, cognitive, learning, power, cultural, environmental, and configuration schools. A subset of these schools of thought is used in this study. They are the design, planning, positioning, learning, and power schools. Our study is limited to this subset since these few schools have been consistently used in management information systems research (Segars and Grover, 1999; Nasi, 1999; Cheon, Grover and Teng, 1995) and therefore have a more stable presence in the literature. Such historical information is useful in furthering the connection between the entrepreneur and his

or her strategy formation style. Those schools less often expounded upon in the management information systems literature are no less important. However, the lack of excessive literature for the remaining schools of thought makes their use in this study less desirable. The schools relate to entrepreneurship theory in that they are cognitive perspectives that serve as a framework for representing managerial attitudes within an organization. The perception of strategy as a behavior or cognitive activity alludes to the ambiguity and changing nature of strategic thought. This evolutionary and dynamic state often describes the thought patterns used by entrepreneurs who may not have pre-existing theories and principles to consider when creating a venture (Sarasvathy, 2001). For instance, Sarasvathy (2001) described the effects of an entrepreneur's cognitive outlook on the new venture that he or she leads. The author noted that if the decision maker believes that the future is measurable and relatively predictable, he or she will do a systematic information gathering effort. Otherwise, information gathering is experimental and iterative learning-based. Entrepreneurial cognition is similar to traits research in that central considerations include the investigation of why some people (and not others) choose to become entrepreneurs, or recognize potentially profitable and exploitable opportunities (Baron, 2004).

The subset of schools investigated in this paper can be repurposed as a relevant categorization mechanism to benefit entrepreneurship theory. The schools of thought align well with the entrepreneurship discipline and can sufficiently describe types of new ventures.

The paper begins with the literature review which covers relevant topics such as strategic entrepreneurship, the schools of thought, innovation and entrepreneurship, open innovation and entrepreneurship. The review is followed by a discussion of the alignment model and how it relates the school of thought with the dimension of strategic management and the type of innovation the organization is capable of. Five propositions flowing from the discussion in the literature around the implications of the schools of thought are presented. The commentary on limitations and future research follows and then there is a brief conclusion.

LITERATURE REVIEW

Strategic Entrepreneurship

The literature indicates a correlation between strategic entrepreneurship and successful innovation yet there is a gap in relevant research clearly linking one with the other. In an effort to fill that gap, this section of the literature review covers concepts relevant to strategic entrepreneurship and their relationship to the entrepreneur's capacity to innovate. Kuratko and Audretsch (2009) describe both strategy and entrepreneurship as dynamic concepts with a focus on organizational performance. They contend that the new competitive landscape includes risks, a firm's decreased ability to forecast, fluid boundaries, and all sorts of internal and external change and complexity (Kuratko and Audretsch, 2009). These realities require that entrepreneurs and managers consider the changing economic landscape in their development of strategy and in their construction of viable organizational structures as noted by Hitt and Reed's (2000) observation that "Organizational design in the new competitive landscape will be shaped by lower transaction costs, increased penalties for hesitancy, and competition based on knowledge accumulation" (p. 32). An organization's strategic plan is its formulation of long-range plans that are meant to effectively manage the environment that it operates in.

As in the SWOT analysis framework, this plan considers the organization's strengths, weaknesses, opportunities, and threats. The strategic management process can guide how the firm's work is approached and creates a relevant context for the development and implementation of strategy. Strategic planning is used to reduce uncertainty, coordinate efforts of an organization's members, establish communication between organizational groups, and search for business opportunities (Segars and Grover, 1999). Several relevant strategic management dimensions in addition to the strategic entrepreneurship strategy have been studied and reported in the literature (Hammer, 1990; Covin and Miles, 1999; Wheeler, 2002). Strategic innovation, domain redefinition, sustained regeneration, business process reengineering, and business model reconstruction are a few (Kuratko and Audretsch, 2009). These dimensions are further detailed throughout the remainder of this literature review.

Schools of Thought and Entrepreneurship

Of the ten schools presented by Henry Mintzberg and others (1985), five are of interest in this paper due to their popularity in previous management information systems research. The schools of thought are not purely distinct. However, although they are not composed of mutually exclusive characteristics, they offer a set of differentiating and categorical descriptors that would allow profiling that is relevant to this paper. In other words, the characteristics of an entrepreneur that aligns with the design school of thought could be recognized as different from those of an entrepreneur aligning with the positioning school.

The Design school embodies strategy formation as a process of conception and is a prescriptive school that appeared in the 1960s. It should be noted that strategy formation involves concepts such as values, vision, competencies, capabilities, crisis, commitment, social revolution and other relevant themes. Strategy is a pattern or consistent behavior as opposed to a proposed plan. This behavior can be deliberate, unrealized or even emergent. The design school includes such tools as the SWOT analysis, the establishment of fit, distinctive competencies and the construction of policy into the social structure of the organization. The Learning school represents emergent processes and is a descriptive school of thought. The learning organization acknowledges the capacity to experiment and the "learn-over-time" approach is used in strategy formation. In this school, strategic planning is creating, acquiring and transferring knowledge although thorough rationalization and reasoning is not necessary. This school is extremely adaptive but requires a high level of resources for continuous reconciliation and portfolio adjustment. It involves systematic problem solving, strategic experimentation and efficient knowledge transfer.

The Planning school of thought represents a formal process of prediction and preparation with procedures and a strategy that is guided by planners. In this school, the goals of the organization are quantified and scenario building is utilized to tightly constrain the formulation but to allow for loose implementation of the strategy. Strategic planning is thought to provide succinct and well-structured sets of activities which protects the organization from duplication and drift. This school of thought is highly linear and rational with controlled, conscious and formalized processes and some institutional-level innovations.

The Positioning school is as set of analytical processes in which strategy is a position that involves a group of activities. The content of the strategy is as important as the process. There is a calculative generation of strategy in this school of thought with diverse sources of perspective. The strategic objective is biased by the technique and framework of the organization and can regress to mediocrity since the output is often generic and tangible positions.

Finally, the Power or Political school involves the process of negotiation and it goes beyond economic influences. Internally, strategies emerge from non-optimal processes since slippage and distortion can occur. The strongest members of the organization are in leadership and externally the firm negotiates through its network to gain collective strategy within its industry.

The schools of thought are a manifestation of managerial beliefs and characteristics. One of these characteristics, adaptability, is the capability of planning systems within organizations to learn (Segars and Grover, 1999). An adaptable entrepreneur can be described as one that operates on a more personal and more informal level with bottom-up creativity and broad participation throughout. The following section offers additional details relevant to each of the schools of thought and the characteristics of entrepreneurs that align with each. Again, the schools of thought are not distinct but do offer a set of differentiating and categorical descriptors that would allow profiling that is relevant to this paper.

Design

The likely theme of entrepreneurs guided by the design school is to "capture success" (Segars and Grover, 1999, p.216). Segars and Grover (1999) note that formalities are often frustrating and innovation and entrepreneurial actions are often the work of a few. Those few people are well-guided, however, by the vision and strategic direction of the top management. The output of this guidance is usually in the form of a vision statement and the creative designs often lead to strategic decisions. Although the focus on creativity is moderate within this school of thought, there is a fairly high consistency which lends itself to speedier decision-making and strategic adaptability. Effective communications within the new venture regarding the proper choice of technology and its match with appropriate economic opportunity fosters a high level of understanding. Effective communications of the economic opportunity and the execution of appropriate business intelligence increases the awareness of priorities and objectives within the firm (Wheeler, 2002).

Learning

The learning organization acknowledges the capacity to experiment and the "learn-over-time" approach is used in strategy formation. Entrepreneurs guided by this school of thought are likely extremely adaptive institutions partaking in systematic problem solving, strategic experimentation, efficient knowledge transfer, and continuous reconciliation (Segars and Grover, 1999). These entrepreneurs prioritize experimentation and assessment with thorough rationalization and require high levels of resources to conduct strategic planning as a creative acquisition and transfer of knowledge. These entrepreneurs are likely highly organized with broad participation and high consistency and a top-down flow of information. Segars and Grover (1999) note that the experimental focus highlights the entrepreneurs' initial examination of means when determining possible effects as in effectuation.

Planning

Entrepreneurs guided by the Planning school carry a theme of synthesis provided by analysis and operate under the assumption that policies and methodologies best mold the strategy of the business (Segars and Grover, 1999). Although this school's primary weakness is its capacity to morph into an overly complex effort, there can still exist some level of institutionalized innovation. There is a lower level of alignment and cooperation yet the linear and highly rational approach involves a great deal of analysis. Entrepreneurs within this school integrate a high degree of causal logic in their planning and work to develop the means to create a certain effect (Sarasvathy, 2001). They make use of procedures that will allow them access into an existing market often using the segmentation, targeting, and positioning strategy. They exploit the knowledge that they have and focus on the future's more predictable elements. They think in terms of expected returns and competitive analysis.

Positioning

Entrepreneurs guided by the positioning school have a theme of selection that is based on calculation and a centralized assessment of the firm's core capabilities (Segars and Grover, 1999). Although it is possible for these firms to become too narrowly focused, there is a high level of analysis involved in strategy and a diverse set of sources from which organizational perspectives arise. Strategic improvements are not necessarily high and the output of the strategic planning process is generic. Cooperation is often low and there is not a general agreement concerning the development of priorities, the implementation of schedules, or the responsibilities of management.

Political

The strategy of an entrepreneur guided by the political school would likely be more emergent than deliberate and more positional than perspective-focused. Change in these types of organizations is often situational and any data that is a part of the organization's memory is "opinion"-focused. Development of an entrepreneur guided by the political school would likely be reactive with very little substantial success (Segars and Grover, 1999). Participation or breadth of individuals' involvement in such endeavors would be narrow and the bottom-up flow of information would foster low creativity and eve lower comprehensiveness. The strategic management dimension most aligned with these endeavors is the business model reconstruction in which operational efficiencies can be gained by the adjustment of the business model. Although they are not exclusive to the political school of thought, the components of a business model offer insights into the strategy formation of an entrepreneur with the model as his/her strategic focus. A business model should address six basic questions including:

- 1.) How does the firm create value
- 2.) For whom does the firm create value
- 3.) What is our source of internal advantage or core competency
- 4.) How does the firm externally differentiate itself in the marketplace
- 5.) What is the firm's model for making money
- 6.) What is the management's growth ambition and over what time period

As noted in the narrative above and as presented in the literature discussed in the following sections, there appears to be a cooperative relationship between entrepreneurs and the Mintzberg et. al. (1998) schools of thought.

Innovation and Entrepreneurship

A popular theme in entrepreneurship research is actually based on Austrian economics and states that different people will discover different opportunities due to their different prior knowledge (Shane, 2000). This suggests that the introduction of innovations within a new venture is at least partially a function of the distribution of information in society. Since technological change is seen as the basis for improvement (Day, 2009), every relevant discovery has some influence on the capacity of the endeavor to exploit technology towards the development of new processes, products, and markets. This is a Schumpeterian principle with elements that include technological change's "conceptual origin by creative thinkers who invent new devices or processes, ... innovation by entrepreneurs who devise the means for ... practical implementation, and finally, the general adoption of new technology" (Day, 2009, p. 26). Any technological change can generate a range of opportunities for innovation as well as opportunities for new firm creation but not everyone will recognize these opportunities.

New Ventures are said to evolve from the prior knowledge of the entrepreneur who may or may not have actively searched for that opportunity (Shane, 2000) and prior entrepreneurial experience, whether or not it was successful, has been shown to have a positive effect on the start of a new firm (Stam, Audretsch, and Meijaard, 2009). Discovery is therefore not as

mechanical a process as is sometimes presented within the phased representation of the innovation cycle and innovation can be more accurately represented as a multi-phased process (Zmud, 1982). Evolutionary opportunities for both innovation and for new firm creation involve the exploitation of new knowledge that is a product of research and development (Falck, 2009).

The strength of innovative companies often lies in their ability to recombine current capabilities and knowledge according to Kogut and Zander (1992). Knowledge is considered the element of a recombination process to generate innovation according to Cantner, Joel, and Schmidt (2009). Therefore, this exploitation of new knowledge coupled with the innovatively combined use of old knowledge can become a distinctive resource of expertise. Expertise exploitation is seen as the capabilities a firm develops to monitor and influence downstream or vertical channels via the use of its knowledge assets. External data is combined with internal procedures in an effort to develop a distinctive capability (Christiannse and Venkatraman, 2002).

These studies suggest that novelty and innovation develop "alongside established patterns and competes with them" and "new combinations of productive factors [are] carried out by the means of entrepreneurial leadership" (Ebner, 2009, p. 369). Said another way, the new venture can operate within an industry or market while taking actions allowing it to competitively position itself within that industry or market. Our study endeavors to explore how the entrepreneurial leadership is expressed as actions. The actions of such an endeavor characterize strengths such as the ability of the firm to anticipate, envision, maintain flexibility, and exist strategically (Kuratko, 2007).

Open Innovation and Entrepreneurship

An additional strategic management dimension not detailed earlier is the open innovation strategy. A traditional vertical integration model is represented by the internal research and development of a firm that results in an internally developed product that can then be offered to the external market (Chesbrough, Vanhaverbeke, and West, 2006). Dissimilarly, open innovation is a combination of inputs of knowledge that can positively affect the organization's internal innovation as well as outputs of knowledge that can "expand the markets for external use of information" (p. 1). The concept emphasizes the importance of a firm's use of both internal and external knowledge in the innovation activity. Congruent with this idea,

Newell and Swan (2000) present an information processing model of knowledge management that characterizes knowledge as an input that is processed by knowledge management techniques. The outputs of this processing activity are in terms of innovation. Knowledge is an entity that is static stock to be leveraged, extracted, codified, and distributed. This supports the process oriented perspective of innovation portraying innovation as a complex design and decision process and a set of recursive and overlapping episodes. Therefore, groups with innovative values use knowledge management to improve methodologies, to work more efficiently, and to create more innovation (Alavi, Kayworth, and Leidner, 2006). Cantner, Joel, and Schmidt (2009) describe innovation as the combination of a firm's existing knowledge to create new knowledge and the primary task of the innovating firm is to reconfigure existing knowledge assets and resources and to explore new knowledge.

In the open innovation paradigm, research and development is open and valuable ideas can come from inside or outside the organization. The business strategy of a firm utilizing open innovation offers various ways for an idea "to flow into the process, and many ways for it to flow out into the market" (Chesbrough, Vanhaverbeke, and West, 2006, p. 3). This requires a firm's increased understanding and use of intellectual property protection. Intellectual property is especially relevant to entrepreneurs without strong social embededness as they attempt to achieve competitive positioning. Yang and Anderson (2011) note that "open innovation is not a single, unique strategy" (p. 1) therefore, a collection of strategies can be employed within a new venture in an effort to maximize the firm's capacity to innovate. Our paper can utilize this "collective view" to investigate the varied strategy formation profiles that the schools of thought present as a way to categorize how an entrepreneur leads his or her new venture.

DISCUSSION

The strategy formation style of entrepreneurs can be correlated to the expected level of innovation that their entrepreneurial endeavors are capable of. The innovations are captured as types as referenced by previous work published by Swanson (1994) who described information systems innovation as an organizational application of digital computer and communications or information technology. In a thorough investigation of 22 empirical innovation-related publications, Swanson (1994) developed innovation types and used the articles to expound on his type descriptions. Each type of innovation reshapes the content, extent and organization of information systems task and can have a business impact as well as a unique technology and organizational feature set. Type I innovations are information systems process innovations that change the nature of information systems work and some second order effects are weak order effects that support this change without spawning additional innovations. Type I innovations can be categorized as (a) administrative or (b) technological. Swanson and Beath (1990) presented such Type I innovations and noted that "Systems beget systems; better systems generate more systems, subject data bases, and strategic information systems" (Swanson and Beath, 1990, p. 658).

According to Swanson (1994), Type II innovations do not affect the business technology but they do have high ramifications for internal information systems work processes since they may also incorporate some Type I innovations and even serve as antecedents to strong order effects. Type III innovations can potentially affect the entire business and have strategic implications for competitive advantage as well as additional strong order effects. The integration form of Type III can cause new organizational boundaries and if the information systems unit is tightly coupled to the host organization (business orientation) there is a focus on the services as a whole and information systems staff can be placed throughout the organization. Information systems units tightly coupled to the professional environment are professionally oriented and want the best educated staff that can assist them in building a state-of-the-art information technology. Swanson (1994) concludes that technical innovations may evolve and become absorbed by organizational features or they can even serve as a seed for the origin of new organizational innovations.

Relevant strategic management dimensions for entrepreneurs within the Design school include strategic renewal, domain redefinition, and open innovation. Strategic renewal, which involves the firm's attempts to redefine its relationships with the market and with its competitors, is possible for firms guided by the design school. These firms are altering how they compete via strategic innovation or value innovation (Guth and Ginsberg, 1990; Hamel and Prahalad, 1995). Domain redefinition, which involves a firm's transition into uncontested markets, is possible for firms guided by the design school. In this strategic management dimension, firms can create or enter new industries and redefine existing industry boundaries.

Open innovation is an especially potent strategic management dimension towards the increased reach and effect of a firm's innovation. It is conjectured within this exploration that entrepreneurs guided by the Design school are capable of innovations. Specifically, these innovations are categorized as Type III Innovations (Swanson, 1994) which can potentially affect the entire business.

Proposition 1: Entrepreneurs guided by the Design school are capable of Type III Innovations which can potentially affect the entire business through strategic management dimensions such as strategic renewal, domain redefinition, and open innovation.

Entrepreneurs guided by the Learning school likely exploit contingencies and pay close attention to affordable losses, strategic alliances, and the possibility of controlling unpredictable future results. Their failure is managed rather than avoided similar to the firms described by Sarasvathy (2001). Strategy formation within such entrepreneurs is a process of collective learning and intensive entrepreneurial strategy is a viable strategic management dimension.

Proposition 2: Entrepreneurs guided by the Learning school are capable of Type III Innovations which can potentially affect the entire business through strategic management dimensions such as intensive entrepreneurial strategy.

It is conjectured within this exploration that entrepreneurs guided by the Learning school are capable of innovations. Entrepreneurs in the Learning school are adaptive to changing organizational needs. They have a thorough canvass of alternatives and the weigh the positive and negative aspects when evaluating alternative actions. Expert judgments are considered in decision making. Because the learning school requires a large amount of resources to conduct experiments, slack resources are important since pilot projects often require additional resources (Hirsch, 1991). Additionally, the financial investment required for such resources can heighten the risks even though the probability of high innovation is present (Sonfield and Lussier, 1997). The rewards for learning behavior in the new venture is great, however the risks may outweigh those rewards if the endeavor is small and not established. Joint venture partnerships and outsourced high investment costs serve as a good approach to mitigating the risks involved. The following is an alignment model which is comprised of information found during the literature review. The model summarizes the above-stated propositions as well as those that follow.

More Innovative (Adaptable)		
School of Thought	Strategic Management Dimension	Innovation Type
Design: Creative design leads to strategic decisions Learning: Strategic planning as creating, acquiring, and transferring knowledge	 open innovation intensive entrepreneurial strategy strategic innovation domain redefinition 	 Type III: Innovations that potentially effect the entire business Integration may cause new organizational boundaries
Planning: Institutionalized innovation with linear and highly rational strategy Positioning: Calculative generation of strategy with diverse sources of perspective	 Limited Regeneration Organizational rejuvenation 	Type II: • High ramifications for internal processes
Political: Reactive development with the planner as the broker between differing organizational interests	• Business model reconstruction	 Type I: Nature of the work has changed fundamentally No additional innovations are spawned
Less Innovative (Rational)		

Table 1 Alignment Model

It is likely that an entrepreneur guided by the Planning school of thought will experience alterations of internal processes, structures, or capabilities although no change to the product offerings will necessarily take place. Activities like business process redesign can be expected within these endeavors. Recognized as the third highest level of business transformation (Venkatraman, 1994), business process redesign is a revolutionary level with a significantly higher range of potential benefits and a higher degree of business transformation. It is a level within which process changes take place and/or an investigation into the validity of current processes is sought. It represents the possibility of radical process improvement in which the organization is focused around outcomes instead of tasks (Hammer, 1990) yet its reach beyond the firm into the external market and therefore its effect on overall innovativeness is limited. It is conjectured within this exploration that entrepreneurs guided by the Planning school are capable of innovations. In entrepreneurs within this school, efficient gains can be produced and strategic issues can be systematically identified and stored. Specifically, these innovations are categorized as Type II Innovations (Swanson, 1994) that have high ramifications for internal information systems work processes but that have no major effect on the business technology. Therefore, in alignment with Schumpeter's "technology change" premise, a high range of opportunities for innovation are not readily created.

Proposition 3: Entrepreneurs guided by the Planning school are capable of Type II Innovations through strategic management dimensions such as business process redesign.

It is expected that entrepreneurs guided by the Positioning school operate within a limited regeneration strategic management dimension. Limited regeneration is defined within this paper as a less effective variation of Covin and Miles (1999) sustained regeneration. What usually results is a collection of incremental innovations and a series of competitive advantages that exist in short bursts in conjunction with specific product's life cycles (Kuratko and Audretsch, 2009). Although the firm regularly introduces new products or enters new markets, the efforts' benefits are short-lived. As portrayed in Wheeler's (2002) study of dynamic capabilities, firms such as this can be expected to have relative high enabling or emerging technologies along with strong matching capabilities for economic opportunities. They also can manipulate their business intelligence toward firm growth but do not capitalize on the assessment of customer value or perceived preference and therefore have intermittent levels of customer value during limited time periods congruent with product life cycles. The customer value is not equivalent to but is analogous to innovativeness. It is conjectured within this exploration that entrepreneurs guided by the Positioning school are capable of innovations. Specifically, these innovations are categorized as Type II Innovations (Swanson, 1994)

that evolve in a way that is based on issues important to new venture but that are not as directly aligned with industry issues. In other words, these innovations will be tightly coupled to the host of the new venture with a focus on improving the business as opposed to aligning with industry-wide best practices therefore limiting the reach of the innovation outside of the organization.

Proposition 4: Entrepreneurs guided by the Positioning school are capable of Type II Innovations through strategic management dimensions such as limited regeneration.

It is conjectured within this exploration that restructuring activities that refine such concepts can be internally useful. Entrepreneurs guided by the Political school are capable of innovations. Specifically, these innovations are categorized as Type I Innovations (Swanson, 1994) which consist of internal process innovation. Although the nature of the work is changed, weak-order effects result in no additional innovation and the external reach of such innovation is thought to be limited. According to Wheeler (2002), "activities conducted inside the organization and its virtual supply chain contribute to the value potential" (p. 220) yet the creation of customer value may or may not be realized.

Proposition 5: Entrepreneurs guided by the Political school are capable of Type I Innovations which consist of internal process innovation through strategic management dimensions such as business model reconstruction.

CONCLUSION AND LIMITATIONS

The way the entrepreneur manages is the personification of strategy within the new venture. It directly affects the success of creativity and innovation. Practical implications include categorical guidance for entrepreneurs and the endeavors with which they are associated. Understanding the source of the firm's strategy can clarify entrepreneurial desires and offer support for the development of organizational structures and implementation strategies. Academically, future work in validating these constructs as being fully related to entrepreneurship theory can preempt the successful empirical study of the profiles. Future work can also include rich capture of case studies with firms employing each of the strategic management dimensions in an effort to validate the school of thought categorizations and innovation type mappings.

Although this study assumes some strong inter-relatedness between the topics, Strategic information systems is not strategic management is not entrepreneurship. It should be noted that much of the school of thought literature is based on concepts relevant to the strategic information systems field of study. Information systems strategy has been described as a strategic weapon when appropriately leveraged and a company's strategy can be one based on initiatives that focus on low cost, high quality, and fast/flexible response (Venkatraman, 1994).

REFERENCES

- 1. Alavi, M.; T. R. Kayworth and D. E. Leidner (2005). An empirical examination of the influence of organizational culture on knowledge management practices. Management Information Systems 22(3): 191-224.
- Barney J. B. (1996). The Resource-based Theory of the Firm, Organization Science, Vol. 7, No. 5, September-October, p. 469-476.
- 3. Baron, R. A. (2004). The cognitive perspective: A valuable tool for answering entrepreneurship's"why" questions. Journal of Business Venturing, 19: 221-240.
- 4. Bhave, M. P. (1994). A process model of entrepreneurial venture creation. Journal of Business Venturing, 9: 223-242.
- 5. Cantner, U., K. Joel and T. Schmidt (2009), The Use of Knowledge Management by German Innovators, Journal of Knowledge Management, 13(6).
- 6. Chaffee, E. (1985). Three models of strategy. Academy of Management Review, 10: 89-98.
- 7. Cheon, M.; Grover, V. and J. Teng (1995). Theoretical Perspectives on the Outsourcing of Information Systems. Journal of Information Technology. 10: 209-219.
- 8. Chesbrough, H. W. (2003). Open Innovation: The New Imperative for Creating and Profiting from Technology. Harvard Business Press.
- 9. Chesbrough, H. W.; Vanhaverbeke, Wim and West, Joel (2006). Open Innovation: Researching a New Paradigm. Oxford University Press.
- 10. Christiannse, E. and Venkatraman, N. (2002). Beyond SABRE: An Empirical Test of Expertise Exploitation in Electronic Channels. MIS Quarterly, p. 15-38.

- 11. Covin, J. G. and Miles, M. P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. Entrepreneurship: Theory and Practice, 23(3): 47-63.
- 12. Day, Richard (2009). The Technology Evolving Culture: Character and Consequence. In Schumpeterian Perspectives on Innovation, Competition, and Growth (eds.) Cantner, Uwe, Gaffard, Jean-Luc, and Nesta, Lionel. Springer
- 13. Ebner, Alexander (2009). Entrepreneurial state: The Schumpeterian theory of industrial policy and the East Asian "Miracle". In Schumpeterian Perspectives on Innovation, Competition, and Growth (eds.) Cantner, Uwe, Gaffard, Jean-Luc, and Nesta, Lionel. Springer.
- 14. Falck, Oliver (2009). New business formation, growth, and the industry lifecycle. In Schumpeterian Perspectives on Innovation, Competition, and Growth (eds.) Cantner, Uwe, Gaffard, Jean-Luc, and Nesta, Lionel. Springer.
- 15. Fiet J. (2000). The theoretical side of teaching entrepreneurship. Journal of Business Venturing, 16(1): 1-24.
- 16. Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. California Management Review, 33: 114-135.
- 17. Guth, W.D. and Ginsberg, A. (1990). Corporate entrepreneurship. Strategic Management Journal, 11, p. 5-15 (special issue).
- 18. Hamel G; Doz Y and Prahalad C. (1989). Collaborate with your competitors and win. Harvard Business Review, 67(1): 133-139.
- 19. Hammer, Michael (1990). Reengineering Work: Don't Automate, Obliterate. Harvard Business Review, p. 104-112.
- 20. Hirsch, Barry (1991). Union Coverage and Profitability Among U.S. Firms. REVIEW, 69.
- 21. Hitt, M. A. & Reed, T.S. (2000). Entrepreneurship in the new competitive landscape. In G.D. Meyer & K.A. Heppard (Eds.), Entrepreneurship as strategy (pp. 23-47). Thousand Oaks, CA: Sage Publications.
- 22. Ireland, R. D.; Hitt, M. A. and Sirmon, D.G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. Journal of Management, 29(6): 963-989.
- 23. Kogut, B. and Zander, U. (1992). Knowledge of the firm, combinative capabilities and the replication of technology. Organization Science, 3: 383-397.
- 24. Kuratko, D. F., and Audretsch, D. B. (2009). Strategic entrepreneurship: Exploring different perspectives of an emerging concept. Entrepreneurship: Theory & Practice, 33: 1-17.
- 25. Kuratko, D. F. (2007). Entrepreneurial leadership in the 21st century. Journal of Leadership and Organizational Studies, 13(4): 1-11.
- 26. Mahoney, Joseph and Pandian, Rajendran (1997) The Resource-Based View Within the Conversation of Strategic Management. in Resources, firms, and strategies: a reader in the resource-based perspective By Nicolai J. Foss, p. 204
- 27. Mata, Fuerst, and Barney (1995) Information Technology and Sustained Competitive Advantage: A Resource Based Analysis. Management Information Systems Quarterly, 19(4).
- 28. Mintzberg, H. (1989). Strategy Formation: Schools of Thought. In J. W. Fredrickson (ed.), Perspectives on Strategic Management, Harper and Row, New York.
- 29. NÄSI, Juha (1999). Information systems and strategy design the knowledge creation function in three modes of strategymaking. Decision Support System, n. 26: 137-149.
- Newell, S.; Swan, J. A. and Galliers, R. D. (2000). A knowledge-focused perspective on the diffusion and adoption of complex information technologies-the BPR example. Information Systems Journal 10 (3): 239-259.
- 31. Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of Management Review. 26(2): 243-263.
- 32. Segars, A. H. and Grover, V. (1999). Profiles of Strategic Information Systems Planning. Information Systems Research 10(3): 199-232.
- 33. Shane, S. (2000). Prior Knowledge and the discovery of entrepreneurial opportunities. Organization Science. 11: 48-469.
- 34. Sonfield, Matthew C. and Lussier, Robert N. (1997) The entrepreneurial strategy matrix: A model for new and ongoing ventures. Business Horizons, 40(3): 73-77.
- 35. Stam, Erik; Audretsc, David and Meijaard, Joris (2009). Renascent entrepreneurship. in Schumpeterian Perspectives on Innovation, Competition, and Growth (eds.) Cantner, Uwe, Gaffard, Jean-Luc, and Nesta, Lionel. Springer

- 36. Swanson, E. Burton (1994). Information Systems Innovation among Organizations. Management Sciences, 40(9).
- 37. Swanson, E. Burton and Beath Cynthia Mathis (1990). Departmentalization in software development and maintenance. Communications of the ACM, 33(6).
- Venkatraman, N. (1994). IT-enabled Business Transformation: From Automation to Business Scope Redefinition. Sloan Management Review, 35(2), p. 73-87.
- 39. Wheeler, B. C. (2002). NEBIC: A dynamic capabilities theory for assessing Net-enablement. Information Systems Research, 13(2): 125-146.
- 40. Yang, Jiting and Anderson, T. (2011). How open innovation strategy is reflected in the firms R&D efficiency DEA ranking? Technology Management in the Energy Smart World (PICMET), 2011 Proceedings of PICMET '11:
- Zmud, R. (1982). Diffusion of Modern Software Practices: Influence of Centralization and Formalization. Management Science. 28(12): 1421-1431.