A System's View of Sustainable Entrepreneurship Education

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In this paper, we argue that entrepreneurship education requires better focus if it is to deliver on its promise. After a brief review of the relevant literature and using an open systems approach, we propose that sustainability must be integrated into the core essence of entrepreneurship education, research and practice.

INTRODUCTION

The entrepreneurial field, having evolved significantly over the past few decades, has continuously offered challenges and opportunities for academics, practitioners, small business owners, potential entrepreneurs, government agencies, and NGOs interested in entrepreneurial growth and activity. One of the current challenges comes primarily from the sustainability movement but also includes social entrepreneurship, ecopreneurship, environmental activism, and the social responsibility movements. Presently there is a thin intersect between these complementary fields, where sustainability is treated as a special case in entrepreneurship.

In this paper, using an opens systems approach, we propose that sustainability must be woven into the fabric of entrepreneurship education, research, and practice; essentially, it must become part of their DNA. It is our intention to demonstrate that using an open, living systems framework, sustainability becomes the most logical and viable venue for effectively promoting entrepreneurship education and practice.

We will present a brief but sufficient coverage of the entrepreneurship literature and the current thinking on sustainability to set the stage for our propositions. These two issues have attracted the attention of distinguished academics and practitioners and our intent is not to duplicate their efforts. Rather, our goal is to present our core argument that the most effective way to teach and practice entrepreneurship is through sustainability using the living systems paradigm.

ENTREPRENEURSHIP: AN OVERVIEW

Review of Definitions and Domains

The historical roots and origin of the term *entrepreneur* is well covered in the literature and our intention is not to review it (nor the field) in depth in this paper (for reviews see Eckhardt and Shane, 2003; Hitt, et. al, 2000; Shane and Venkatarama, 2000). Suffice to state that the majority of scholars in

the field have yet to agree on a common definition or research domain. As Shane and Venkatarama (2000, p.218) stated a decade ago, "Perhaps the largest obstacle in creating a conceptual framework for the entrepreneurship field has been its definition." Much has not changed over time. The field of entrepreneurship - what it is, how it is defined and who is an entrepreneur - is far from being settled.

As scholars continue to re-define the field, a major theoretical discussion on entrepreneurship, in the last decade or so, has been around indentifying the domain of entrepreneurial research and education. The core of the argument has revolved around shifting the point of analysis from an entrepreneur's traits, personality and behavior, to other domains, including social and sustainable entrepreneurship (Gartner, 1985; McKenzie, Ugbah, and Smothers, 2007).

A review of the variety of domain definitions in itself provides a rich overview on the topic of entrepreneurship research and education. Venkataraman (1997) addressed this issue by highlighting the surge in demand for entrepreneurship education. As he stated, "This demand for entrepreneurship education has attracted attention to the intellectual content of the field…and with this attention comes a challenge. The researchers and educators in the field must confront the question "what is the distinctive contribution of our field to a broader understanding of business enterprise?" (p. 120). He then proceeded to argue that "Thus, entrepreneurship as a scholarly field *seeks to understand how opportunities to bring into existence "future" goods and services are discovered, created, and exploited, by whom, and with what consequences"* (1997, p120). Along similar lines, there have been continued calls for a deeper understanding of the field, including issues related to research domains and education (Eckhardt and Shane (2003; Shane and Venkataraman, 2000).

For reasons discussed later, we prefer a much broader perspective of an entrepreneur and entrepreneurship. Our view it that entrepreneurship is the power to make things happen. An entrepreneur is anyone capable of generating results in any area of human activity. This is consistent with our view that entrepreneurs are dreamers who act, different from those of us who merely dream but never act on them, and those who act others' dreams but have none of their own. From this point of view, we can define entrepreneurship beyond the traditional formation of a new business*: Anyone who acts on her/his creative ideas is an entrepreneur.*

Sustainability is not a new concept. Its origin can be traced to the early Agrarian communities of 8000 to 10000 years ago who were dependent largely on their environment for existence (Clarke, 1977). It can also be conceptually traced to the writing of Henry Sidgwick as early as 1907 and more recently to the 1987 Brundtland Commission of UN (United Nation General Assembly, 1987). However, it is interesting to note that none of the definitions or domain discussion cited above specifically or clearly mentions the concepts of environmental impact of entrepreneurial activities or sustainability. While Venkataraman (1997), Shane and Venkataraman (2000) and Eckhardt and Shane (2003) discuss the notion of existence and pursuit of opportunities as the core of entrepreneurship, none offer any discussion on the sustainability of the opportunities or their sources in the long-run.

Entrepreneurship Education

While there is a relatively large body of literature on entrepreneurship education, we will restrict our coverage of the topic to a few major publications. We will cover additional literature when we deal with sustainability in the sections below.

Kuratoko's (2005) research offers a detailed and comprehensive landscape of the popularity of entrepreneurship education from its impact on US economy, to the number of colleges and universities offering courses and degrees in entrepreneurship, and its ability to go beyond creating new businesses. He argues that: "The characteristics of seeking opportunities, taking risks beyond security, and having the tenacity to push an idea through to reality combine into a special perspective that permeates entrepreneurs. An "*entrepreneurial perspective*" can be developed in individuals. This perspective can be exhibited inside or outside an organization, in profit or not-for-profit enterprises, and in business or nonbusiness activities for the purpose of bringing forth creative ideas" (Kuratko, 2005, p. 578).

To set the stage for the rest of our discussion, it is instructive to repeat the list of major themes in entrepreneurial education identified by Kuratko (2005), not just for what they are, but more importantly

for what is missing among them: comparison of managerial and entrepreneurship domains, venture financing, corporate entrepreneurship, strategies, behavior, risk and trade-off, women and minorities, global entrepreneurship, economics and social contribution of, and ethics. A noted absence is environmental activism, social entrepreneurship, social responsibility, or sustainability.

A similar situation exists with Kurtatko's (2005) listing of the future challenges for entrepreneurship education (i.e., the maturity/complacency/stagnation trap, research/publication dilemma (too many journals chasing too few quality research), the faculty pipeline shortage, the technology challenge, the "Dot.Com" legacy, the academia vs. business incongruence, the "Dilution Effect", the security-risk dilemma, the administrative leadership revolving door problem, and the "Power of One"). Once again the absence of any challenges regarding the environmental issues, social responsibility of entrepreneurs or entrepreneurship and sustainability is quite noticeable.

A recent United Nations report on entrepreneurship covers an interesting perspective. Using open systems concepts, it recommends developing the entrepreneurial ecosystem "in which multiple stakeholders play roles in facilitating entrepreneurship. It is s system of mutually beneficial and self-sustaining relationships involving institutions, people and processes that work together with the goal of creating entrepreneurial venture" (UNCTD, 2010, p. 3). However, it fails to articulate the specifics of such relationships in the context of social entrepreneurship, environmental impact or sustainability. Such gaps become more pronounced when the report deals with curriculum development. It recommends curricula tailored to the local environment, cross disciplinary programs and beyond business and economics, and involving international organizations (UNCTD, 2010).

In September 2004, the *Academy of Management Learning and Education* (*AMALE*) published a special issue on the role of management education in the training and development of entrepreneurs. The message and contents of that issue were later criticized in a 2007 article published in the same journal by Tracy and Phillips (2007) as making an "...important omission-there is no discussion of *social entrepreneurship,* a form of enterprise that is becoming increasingly prominent in the U.S., U.K., and elsewhere..." (p.265). It is interesting to note that the entire article's discussion on the importance of social entrepreneurship is devoid of any specific mention of the concept of sustainability in any form or shape.

Six years later, in September 2010, *Academy of Management Learning and Education* published another special issue on sustainability in management education. While dealing comprehensively with the rising popularity of this concept and its importance in management education, the issue of integration of sustainability in entrepreneurship education is noticeably missing. *It is ironic that that when AMALE deals with entrepreneurship education, social entrepreneurship and sustainability issues are missing and when dealing with sustainability issues, entrepreneurship is missing.*

We will now turn our attention to the historical as well as recent developments in the areas of social entrepreneurship, ecopreneurship, and environmental activism, with particular emphasis on the area of sustainability and its place in entrepreneurial activities, education and research.

SOCIAL AND SUSTAINABLE ENTREPRENEURSHIP

The term **social entrepreneurship** was first coined in the 1980's by Bill Drayton, founder of ASHOKA (Hsu, 2005). Since then, social entrepreneurship has gained attention as a significant field that shows how critical societal issues can be addressed through the innovation, persistence, and sustainable results associated with entrepreneurship. A number of researchers and practitioners have attempted to define social entrepreneurship. The seven most common elements in these definitions are: addressing social needs/problems that make a positive contribution the community, innovation, scaling a social venture, resource acquisition to accomplish the organization's mission, opportunity recognition, creating a sustainable business model and measuring outcomes (Brock and Steiner 2008). Dees (1998), for instance, advocates social entrepreneurship with the primary objective of achieving social goods, while regarding wealth creation as a means of achieving desired social objectives.

Matolay and Pataki (2007, p.1) offer a useful definition: "The term 'social entrepreneur' is understood here as change agent, who implements innovative and sustainable solutions to complex, severe and often systemic problems faced by typically marginalized groups of society. Their major entrepreneurial characteristics are unusually captured as being imaginary, innovative, accepting high level of risks, ability to implement their vision, and leadership capabilities."

The concept of **sustainable entrepreneurship** has its roots in the field of environmental and social entrepreneurship the emerged in the late 1990s (Parish, 2008). It emerged from the combined field of entrepreneurship and sustainable development (Tiley and Parish, 2009). There is a rich body of literature on this hot topic covering the last ten years. A comprehensive summary of the major research n this area appears in the special issue of the *Academy of Management Learning and Education* (September 2010). While our goal is not to present a comprehensive review of the literature in this paper, we present some of the research relevant to our point in this paper.

The World Commission on Environment and Development (WCED), an independent body established by the United Nations in 1980, has defined sustainability as the ability to "meet the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). Cohen and Winn(2007) define *sustainable entrepreneurship* as "the examination of "how opportunities to bring into existence 'future' goods and services are discovered, created, and exploited, by whom, and with what economics, psychological, social and *environmental consequences"* (p.30).

The current evolution in sustainable entrepreneurship research and practice has its roots in two divergent concepts. One draws the attention to the economics and market imperfection as the cause of environmental degradation as the areas of opportunity for sustainable entrepreneurship (Cohen and Winn, 2007). The other one draws the attention to the field of social entrepreneurship of doing good deeds for the society and recommending reconfiguring resources to achieve desired social objectives (Dees, 1998). However, as Dean and McMullen (2005, p. 52) lament, "…despite the fact that the entrepreneurship literature directly addresses the market-equilibrium exploitation of market gaps, imperfection and failure [.……] it has yet to address how entrepreneurs can overcome environmentally relevant market failures and how the exploitation opportunities might decrease environmental degradation."

One of the main reasons why sustainability and sustainable entrepreneurship has not been in the mainstream of research and an integral part of the entrepreneurship domain is the history of conventional entrepreneurship research that treats the profit motive as being within the boundary of research, while activities not involving profit are regarded as being outside of this domain (Cohen and Winn, 2007; Elkington, 1997; Tilley and Parish, 2009; Win and Kirchgeorge, 2005). Unfortunately, social entrepreneurship has a similar bias in reverse order. *Teaching entrepreneurship from a systemic perspective will eventually remove these artificial barriers.*

SYSTEMS PERSPECTIVE

Nature of the Systems and the Principles

Although there are many definitions of systems, we will use the most widely acceptable definition offered by Russell Ackoff:

"A system is a whole consisting of two or more parts that satisfies the following five conditions:

a. The whole has one or more defining properties or functions
b. Each part in the set can affect the behavior of properties of the whole
c. There is a subset of parts that is sufficient in one or more environment for carrying out the defining function of the whole; each of these part is necessary but insufficient for carrying out this defining function
d. The way that each essential part of a system affects its behavior or properties depends on (the behavior or properties of) at least one other essential part of the system
e. The effect of any subset of essential parts on the system as a whole depends on the behavior of at least one other such subset.

In summary, a *system is a whole that cannot be divided into independent parts without loss of its essential properties or functions"* (Ackoff, 1999, pp. 5-8).

Gharajedaghi (2006, p. 29) posits that there are five systems principles, viz., *openness, purposefulness, multidimensionality, emergent property, and counterintuitiveness,* that act together as an interactive whole to define the essential characteristics and assumptions about the behavior of a purposeful, multidimensional system.

Openness is the principle governing all living systems. It means that the behaviors of the system can be understood only in the context of their environment. Furthermore, "…the *environment* of a system consists of those things that can affect the properties and performance of that system, but over which it has no control. That part of its environment that a system can influence, but not control, is said to be *transactional*. That part of a system's environment that can neither be influenced nor controlled is said to be *contextual"* (Ackoff 1999: .7). The transactional environment includes all the critical stakeholders of s system: customers, suppliers, owners, the boss, and, ironically, the members themselves (Gharajedaghi, 2006).

Purposefulness is the systems dimension dealing with choices of ends and means. As Ackoff (1999:21) asserts, "An entity is purposeful if it can select both ends and means in two or more environments." Gharajedaghi 2006: 37) expands on this in explaining that a *purposeful system* is "one that can produce not only the same outcome in different ways in the same environment but different outcomes in both the same and different environment. It can change its ends under constant conditions. This ability to change ends under constant conditions is what exemplifies free will. Such systems not only learn and adapt; but can also create. Human beings are examples of such systems."

Multidimensionality is the ability to see complementary relations in opposing tendencies and to create a feasible whole with unfeasible parts. Introducing an "And" relationship in place of an "Or" relationship (a dichotomy), will allow us to create typologies where application of low and high degree to opposing tendencies creates new dimensions (Nadim, 1985).

Emergent Property is the property of the system (the whole), not the property of the parts of the system. It is the result of the interaction and interdependencies of the parts, not the sum of their actions. It cannot be deduced from the action of the parts. If a system is broken down into its components to understand its behavior (the process of analysis) it loses its emergent property. The process of interaction is an ongoing and dynamic process. In order to understand it, one has to understand the dynamics and the process that generate them. Success of any system (one of its emergent properties) depends on the compatibility among its parts and its relation to its larger system. It must be a value-adding process.

Counterintutiveness means that actions intended to produce a desired outcome may, in fact, generate opposite results.

Living systems (Miller, 1960), a concept critical to the systems perspective, are open-self organizing systems that have the special characteristics of life and interact with their environment through exchange of information and material-energy. They can be as simple as a cell and as complex as society. One essential aspect of all living systems is that they depend on importing energy from the environment in order to survive and they give off by-products to the same environment.

Living systems tend to evolve toward a higher level of order in terms of differentiation and organization. In human systems, the primary means of evolving toward a higher level of order, differentiation, and organization is through exchange of information. It is achieved though dynamic interactions of the components and through feedback.

A Systems Approach to Sustainable Entrepreneurship

The living, open system paradigm will offer the platform for appreciation and understanding the interdependencies among the parts (the entrepreneur), the whole (the organization s/he creates) and the larger system (the transactional and contextual environments).

The concept of sustainable entrepreneurship (here we distinguish our term from the commonly used term "Sustainability Entrepreneurship" - meaning entrepreneurial activities in the areas of sustainability)

as the core of entrepreneurial activities from an open systems perspective has received little or no attention (that we are aware of) in the entrepreneurship curriculum.

Several authors have lamented on the fragmentation of business education into narrow, specialized fields and contend that there should be a broader, more integrative approach (Zeithaml and Rice, 1987; Kuratko, 2005). It is unfortunate to note that in spite of their logical and sound reasoning, management education not only has not moved to greater integration, but has sunk to a lower level of discipline sub-specialization silos. While the logical choice is applying systemic thinking in the management education of 21st century business leaders, for reasons articulated by Atwater, et. al (2008), we are still lagging behind. In advocating our systemic brand of sustainable entrepreneurship, we mean the teaching, research and practice of entrepreneurship with a sole motive of sustaining the part, the whole and the larger system (transactional and contextual environments) of entrepreneurial activities. The strengths of a sustainability approach to entrepreneurship education and practice from a systems perspective is that it can satisfy both the proponents of equilibrium as well as those of advocating opportunities. In both cases, without sustainable opportunities or their sources, one cannot behave entrepreneurially or practice entrepreneurial activities.

Let us view the paradigm from the entrepreneur's perspective as well as the organization that is established. As an open system, entrepreneurs need the environment for their viability and vitality. They have two choices: regard the resources available to them as nonrenewable, or sustainable. From a nonrenewable perspective, they can remain viable as long as the resources last. Once the resources are completely depleted, they either have to shift resources, or face extinction. This is true about any business within its product life cycle. They either have to innovate, or go out of business.

From a sustainable view, the viability and vitality of the business and the renewable resources are interdependent. Sustainability is not and should not be restricted to physical or economic resources. It should be directed towards sustaining the entire larger system. Customers' loyalty and commitment and community support are as equally important as natural resources or manufacturing capabilities.

Overemphasis on entrepreneurship creativity and risk taking ignores the systemic nature of the process. In the current teaching within the field, components of the environment, both transactional and contextual, are treated as passive resources, rather than active co-producers of the entrepreneur's long-term success.

Sustainable entrepreneurship, based on open systems principles, is treated as a special case, something that only enlightened schools teach and enlightened entrepreneurs practice, rather than norm. The selection of open, living systems as the foundation of teaching entrepreneurship will include a concern for and an incorporation of the larger system, the transactional and contextual environments, by default, rather than a special case. Currently, the field is treated as a separate discipline and suffers from fragmentation. Disciplines are artificial slices of real whole, selected for specialization and convenience. Within the discipline, while all the right parts are listed, there is no indication that there is a systemic understanding of the interaction of these parts and their impact on the success of the entrepreneurial ventures.

Playing the zero-sum game among the members/components of the transactional environment ignores the system's dimension of emergent property. The transactional environment in itself is a system that cannot be broken into smaller pieces and played against one another. Once this is done, it destroys its emergent property as the co-producer of entrepreneurial success.

Sustainability, and the balancing of economic, social and environmental factors, can serve as an integrative concept for entrepreneurship education, compatible with the systems view. However, sustainability and social entrepreneurship is still viewed as a special case, not *the way,* to teach and practice entrepreneurship. We concur with Cohen and Winn's (2007) assertion that the literature on sustainability is rather thin, and the changes achieved today are only incremental.

Society may be finally at the early stages of paradigm shift from viewing organizations as machine or animated objects, to seeing them as living, open, social systems (Ackoff and Gharajedaghi, 1996). As one report suggests, "this new paradigm shift is based on sustainability, and has a new language with words like co-operation, collaboration, conservation, creativity, personal mastery and balance" (Powers

Consulting, 2001). Another sign of a movement in the right direction is implied in Choi and Gray (2004), who identified 20 successful sustainable entrepreneurs in various industries and provided insights into how these entrepreneurs initiated, grew and built their exemplary companies.

Unlike the current trend of engaging in sustainable entrepreneurship as one of the means of redressing large scale as well as gradual environmental degradation, we posit to integrally include it with the DNA of entrepreneurship activities, its culture, and its domain: integral and inseparable.

Why Are We Not Teaching Entrepreneurship from a Systems' View?

The answer is not easy and has many dimensions. For too long business schools have generally adopted the animated view of a firm, equating it with human body, with the CEO/President/Dean taking the role of the brain and the rest of the employees, taking the role of the elements and the sub-systems.

The entire field of business, including its formation and operations, has been parceled out to different disciplines to handle - with very little success. There is enough in the current literature about the rate of failures of start-ups, Fortune 500, etc., so we will not take the space to repeat them. Suffice to say that the prevailing paradigm has not enjoyed a stellar success.

In business schools, the lone attempt at integration of different subjects - accounting, finance, marketing, management, etc. - has been delegated to the "Capstone" course, hoping that at the end within one magical course, students miraculously will construct a feasible whole from all of these infeasible parts. This process is similar to giving someone a 5000-piece jigsaw puzzle in a bag, without the picture of the final assembly and then expects her/him to put it together without much struggle. Most of us are able to do jigsaw puzzles by looking at the picture on the back of the box and matching the pieces to the picture. No such favor is provided to business students in business schools, including those offering entrepreneurship courses/specializations.

Textbooks on entrepreneurship are not exempt from criticism either. Almost all of them, after the coverage of definitions, characteristics of entrepreneurs, and a chapter on innovation, delve into business planning, treating the coproducers of an entrepreneur's success as separate resources to be used or exploited. Nowhere is a major coverage of the nature of the enterprise as a whole, their impact on the larger system or the effect of the larger system on the fledging business.

Many of these are the consequences of unfamiliarity of business faculty with the system's approach. Atwater, Kannan, and Stephens (2008) in their critically important article "Cultivating Systemic Thinking in the Next Generation of Business Leaders", conclude that:

> "The good news is that systemic thinking has permeated the curriculum of many top business schools and virtually every functional area within business. Nevertheless, three areas of concern were raised by survey results. First, *the majority of the faculty were either unfamiliar with systemic thinking or defining it unidimensionally* [emphasis ours]. Our first recommendation, therefore, is to develop a unified understanding of the concept. The synthetic thinking element discussed by Ackoff is clearly the most visible and readily recognized" (p.19).

Our complementary recommendation is to initiate a major research project on comparing the rate of business success and failure (most importantly entrepreneurial) between the social and sustainable entrepreneurship (SSE) ventures and other types of entrepreneurship. We submit that the rate of success among SSE firms will far exceed the traditional types and will do away with the myth that most of the new business start-ups fail in the first five years of their operation.

FUTURE DIRECTIONS

A systems view of entrepreneurship in business schools should begin by providing students with a view of entrepreneurship in action. This will necessitate the placement of entrepreneurial activities within the larger system, since from an open systems paradigm, the behavior of any system can only be observed

in the context of its environment. This will be drastically different from subjecting the students to the often useless business planning exercise.

Subsequently, the impact of the larger system (both its influence and control) on the entrepreneurial organization should be articulated. Presently this is done only through demonstrating the impact of the regulatory agencies (OSHA, EPA, etc.) usually as an adversarial and zero sum relationship, not a collaborative and positive one. This approach is compatible with training and educating *ecopreneurs* (Gibbs, 2007).

The goal is to provide entrepreneurship students knowledge whereby an emerging enterprise is viewed as a whole with its emergent properties, interacting and collaborating with its parts (other members of the entrepreneurial team), and its environment (containing system).The collaboration and win-win paradigm will be both sustainable and socially responsible by design and default, rather than a special case of entrepreneurship. This will be the ideal educational paradigm for entrepreneurship that we should all approximate as closely as we can.

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