

Issues in Social and Environmental Accounting

ISSN 1978-0591 (Paper)

Vol. 6, No. 1/2 June 2012

Pp. 26-49



www.isea.icseard.uns.ac.id

<http://iiste.org/Journals/index.php/ISEA/index>

Facilitating Corporate Entrepreneurship in Public Sector Higher Education Institutions: A Conceptual Model

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Abstract

This paper develops a conceptual model of public sector corporate entrepreneurship for the state government higher education institutions. The proposed model is intended to depict the main antecedents that relate to corporate entrepreneurship within the public sector higher education institution and the impact of corporate entrepreneurship on public sector HEI's performance, as well as factors influencing its continuous performance.

Keywords: *Corporate Entrepreneurship, Public Sector Higher Education Institutions, Performance.*

Introduction

A review of the literature on corporate entrepreneurship reveals that most important element that influences the presence of entrepreneurial activity within organization is the existence of a dynamic or even hostile market environment (Covin & Stevin, 1990; Miller & Friesen, 1984; Russell, 1999; Zahra, 1991; Zahra, 1993). The higher education sector is facing the same environment; here, we can say that higher education sector is perfect for an entrepreneurial frame (Kliwer, 1999). Both internal and external environments of higher education sector are seeking high demands, some new and some old: economic recession throughout the world has shrunk resources and increased costs, the matters of quality and relevance, multitude changes in technological and information management needs, the demands for responsiveness to internal and external stakeholders within and outside the institutions (Tierney, 1999). The sub-sector of higher education is turmoil and changing, the higher education institutions are under huge pressure to adapt to new environment survive (Collis, 2001; Collis, 2002; Millin, 2001). The higher education institutions with traditional Governance structure and with methodical pace of traditional decision making hardly cope with the changing pressures (Benjamin, Carrall, Jacobi, Krop, & Shires, 1993).

Therefore, the organizations in private sector (Collis, 2002; Drucker, 1996) as well as better entrepreneurial organizations in public sector (Osborne & Gaebler, 1993; Chaffee & Sherr, 1992) can become better models for higher education institutions to replicate. Collis (2001) warns the higher education institutions to make rapid changes to respond to the demands of students, government, foundations and employer before they lose their students and grants as well.

Adopting a public sector corporate entrepreneurship model to the higher education can help colleges and universities to build capacity to cope with the dynamic and hostile environment as well as to fulfill the competing demands to achieve their missions successfully.

The Concept of Public Sector Corporate Entrepreneurship

The Public Sector Corporate Entrepreneurship is a process that enable a public or a non-profit organization to develop a more advanced and powerful form of public entrepreneurship.

The public Sector Corporate Entrepreneurship concept emerges from and builds on three other conceptual frameworks: entrepreneurship, corporate entrepreneurship and public entrepreneurship. The underpinning theories behind the concept are Schumpeter's, William Baumol's and Young's studies. The Schumpeter's vision that nation's innovation and technological changes emanate from individual entrepreneurs with their *unternehmergeist* or *fiery spirit* generating "*creative destruction*" of old ways with new ones (1912, 1934, 1942). While Young (1983) explained that entrepreneurial motivation in non-profit sector focus on personal development, search for personal identity, need for autonomy and independence, pride of a creative accomplishment as well as to gain power or control. Schumpeter also explained that the phenomenon of entrepreneurship should be shifted from individual to the corporations because they own plentiful resources for R&D. For William Baumol (born in 1922) capitalism is the best environment for nurturing innovation and economic growth, but it requires the presence of both the individual entrepreneur and the large oligopolistic firm. In most cases major innovations emanate from the ingenuity and serendipity of individual entrepreneurs, but important changes occur through the wide scale impact of innovation on productivity and welfare. In order to achieve this level of organization, large-sized firms assumes a prominent role, as on the one hand their reutilized improvements are necessary to reap the full benefits of innovation, and on other hand there is a continuous battle between large firms that, in order to avoid facing decline, are obliged to continue to employ recourses in research and development.

According to Schumpeterian concept of *entrepreneurship*, there should be essential changes in a public or non-profit organization for the identification of a new need and the set up of new services (Christophe, B., 1997), as it was described in Young's cases (1985). So, it can be concluded that a public or a non-profit organization characterized by Schumpeterian entrepreneurship would be of particularly innovative character. At

first, this can be investigated by considering the public or the non-profit organization's capacity to produce new kinds of services or to implement new qualities of goods or services. To remedy this, a focus on **Corporate Entrepreneurship** within companies emerged, with Covin & Miles (1999) defining it as "the presence of innovation with the object of rejuvenating or redefining organizations, markets, or industries in order to create or sustain competitive superiority." In parallel, the concept of **public entrepreneurship** emerged. Stone (1992) defined it as "An organizational process involving innovation, risk and pro-activity which results in a disjuncture from standard operating procedures and responses by current system in order to achieve public purpose."

Public Sector Corporate Entrepreneurship integrates and builds on the forging concepts as well as on the concept of entrepreneurial government connected to the New Public Management (Edward et al., 2002). It has been defined by Mahmood & Nayyar (2010) "*A powerful form of public entrepreneurship that prevails within a public or non-profit organization promoting nonbureaucratic mechanisms to remedy fundamental problem of traditional bureaucracy by changing organizational structures, processes, and cultures through the dimensions of risk-taking, innovation, and proactiveness: inclined to shared governance, reduction of red tape, promotion of customer satisfaction, empowerment of employees, more responsive to its stakeholders, and promotion of cost-efficient performance.*"

So, public sector corporate entrepreneurship is considered as having same characteristics as private entrepreneurship, by introducing market-like competition. A commonly accepted definition of entrepreneurship from private sector consists of three dimensions: risk-taking, innovativeness, and proactiveness (Collins & Moore, 1970; Miller, 1983; Miles & Arnold, 1991; Naman & Slevin, 1988, 1991; Moris & Jones, 1999; Miles & Arnold, 1991; Naman & Slevin, 1993). These characteristics can be applied to the public sector (Yonhee, 2007). Moris & Jones (1990) identified three components of public sector entrepreneurship: innovativeness is inclined to be more concerned with novel process improvement, new services, and new organizational forms; risk-taking includes pursuing initiative that have a calculated likelihood of resulting in loss or failure; and proactiveness means action oriented that includes creative interpretation of rules, skills at leveraging of resources, and high level of tolerance in effecting change.

Corporate Entrepreneurship and the State Government Higher Education Institutions

The circumstance that allow room corporate entrepreneurship in a corporate business environment may also create the same conditions for CE to be successful within the context of Higher Education Institutions because scholars have the opinion that corporate venture flourish in a rapidly changing environment and the same is that facing Higher Education Institutions today (Michael Paul, A. W., 2008). Zahra (1991) verifies that entrepreneurial activities are intensified in dynamic, hostile and heterogeneous environment. For Russell & Russell (1992) uncertain environment

correlates with a successful entrepreneurial venture. In a rapidly evolving environment intrapreneurship is practiced best (Nielsen, Peters, & Hisrich, 1985).

According to Clark (1998), corporate entrepreneurship (CE) models can offer potential solutions to organizational problems that the business and higher education sector have in common. At the organizational level a theoretical framework seems to be helpful for both business and Higher Education Institutions. So, CE may help an organization to respond to direct competitive threats from other organizations serving the same or similar markets. Collis (2001) informs about more innovative proprietary institutions which offer different kinds of services that students prefer can become a threat to the traditional public Higher Education Institutions. Here, the public sector corporate entrepreneurship can improve the organizational capacity to respond to external or environmental threats and opportunities.

According to Levine (2000) as the emergence of “click” and “click and brick” universities that use web based innovation have become a permanent threat for the “brick” universities. To successfully surpass these new competitors the higher education institutions may apply the tool of corporate entrepreneurship. Christenson (1997); Collis (2001); Dougherty (1990); Peterson (1981); Peterson & Berger (1971) all comment to defend the external competitive threat by corporate entrepreneurship. On one hand CE increases the firm’s capacity to cope with external competition but also on the other hand enhances ability of a firm to response rapid and sustain environment (Kuratko, Montagno, & Hornsby, 1990; Miller & Friesen, 1984).

Clark (1998) suggests that CE provides organization an advantage to deal with “demand overload” the imbalance between the ever increasing demands for access, new training, accountability and creation of new knowledge and the institution’s ability to respond. Peterson (1981) writes that corporate entrepreneurship can build the capacity of an organization to normalize the negativism created by environmental turbulence by improving their ability to respond quickly to rapid change and take advantage of opportunities. This is a shield of insurance against the external threats (Mical Paul, A. W., 2008).

For managing organizational transformation and strategic renewal CE is an effective tool (Ginsberg, 1990). Entrepreneurial activities within an organization allow the firm to retain staff and jump-start new ideas without changing the firm’s strategic mission (Wild, 2000). So, in this way environmental change within an organization can be tackled by CE (Mical Paul, A. W., 2008). The internal venturing, according to Peterson (1981), serves as a “safety valve” against internal pressure to create opportunities for growth. This safety valve prevents bureaucratic frustration that causes attrition of innovative employee from the organization (Kanter, 1984; Pinchott, 1985; Godardd, 1997; Kuratku, Montagno, & Hornsby, 1990). CE helps organizations to retain their innovative employees by capitalizing their innovations and by doing so the organizations also prevent to generate new competitors (Wild, 2000). To maintain competitive edge for the firm, and initiating transformation and renewal, the pursuit of innovation is an important mean (Russell, 1999).

Transformative business properties of an entrepreneurial business organization can be replicated in the higher education organizations (Mical Paul, A. W., 2008). So, as an “entrepreneurial university” can response quickly to its stakeholders whether they are internal or external by building capacity to cope with competing demands and innovations to achieve its mission successfully. These new type of “entrepreneurial universities” actively seek to innovate and struggle to change both process and outcomes in order to adopt to change (Clark, 1998). Entrepreneurial organizations not only change themselves but the entire industries (Chandy & Tellis, 2000) by becoming more responsive to internal and external demands and can achieve their goals more successfully (Wild, 2000). Antonic & Hisrich (2001) predict that innovation in an organization generate innovative activity and innovative orientation within the organization. These result in new products and services, technologies, and administrative technologies, new strategies and new competitive practices (Mical Paul, A. W., 2008).

Burgelman (1983) found that CE can be seedling for economic returns and diversification in the existing firms. He also has the view that within these firms middle management play “uncertainty absorption” role to make innovations into determination of firms’ strategic vision. According to Burgelman (1983), Merrifield (1993), and Dess, Lumpkin, & McGee (1999), corporate entrepreneurship is the deriving force to elaborate, explore, and extend the firm’s existing technologies and corporate capabilities through extending the firm’s environmental base.

Birnbaum (2000) imported strategies from business sector to higher education organizations and named them “management fads” considering little whether they solve problems or create new ones in the higher education context. He further explores “management fade life cycle” in which a business practice is taken as a solution to a college or university’s management problems. Translation of a management practice from sector to another has some inclination towards the potential to create new problems to replace the ones it solves or have no effect at all because of the incompatibility of the two different kinds of organizations. (Brinbaum, 2000; Marginson & Considine, 2000; Buckley & Hurley, 2001).

Challenges to Applying Corporate Entrepreneurship in Different Context

Colleges and Universities significantly differ from business organizations in the areas of planning (Schapiro, 1997), governance (Council of Aid to Education, 1997), and decision making style (Schuster, Smith, Corak, & Yamada, 1994), even in market and customers. These differences are the main obstacles to adopt a business management practice into a public or non-profit sector as the state government higher education institutions (Wong, 2008).

Planning

Schapiro (1993) differentiates the profit-based standards of a business entity with the more complex goals of colleges and universities. According to (Wong, 2008) colleges and universities have more altruistic goals of creating new knowledge and teaching

students including the pursuit of research funding as well as non-profit fund raising. A business organization has very clear goals to satisfy its customers who might purchase its products while colleges and universities have multiple goals and multiple customers to satisfy whose interests may not be same all the time (Schapiro, 1993).

Governance

According to Wong (2008) as colleges and universities have multiple goals, and are opposite to the business sector due to contending with a governance structure that may slow or even prevent the higher education organizations from responding to the external environment. In "Breaking the social contract" the council of Aid to Education (1997) describes that during strategic planning it is their governance structure that prevents them to ask the questions that a business organization addresses. It is also pointed out that higher education institutions have separate budgeting and accountability mechanism that insert barrier between the organization planning function and its internal management. Birnbaum (1991) criticizes in the way that academic senate neither works nor goes away. Their functions are only to steer and to deal with impending crisis that contrast to business organizations' governance that are to achieve the organizations' strategic goals (Lee & Piper, 1998).

Decision Making Process

Alike planning and governance, Schuster and Associates (1994) differentiate business and higher education institution in the decision making process. They elaborated that in the decision making process in higher education institutions context processes and outcomes are almost independent of one another. The central conflict in this context is between making good decision and making legitimate decisions (Wong, 2008). It is acknowledged that acceptability replaces the search for the best decision which affects negatively the overall performance of the organization. The scholars have the view about appropriate dealing with organizational external environment in the context of higher education, planning and governance process are asynchronous and unlikely to affect one another (Wong, 2008).

Higher Education as an Industry Situated within a Market for its Services

One way to deal with higher education and its external environment is to see it as an industry situated within a market. Collis (1999, 2001, & 2002) explored much about the higher education industry and its customers, competitions, branding, price, and income. These elements detected by Collis functions within the context of higher education organization's continued performance for retaining value within this market.

In the context of higher education the customer is the product as contrary to the business where customer is external to the organization and the product is changed to respond to the customers demand (Wong, 2008). Higher education's "customers" belong to colleges and universities from where they go through a process for personal transformation and to gain certain academic values other than merely to consume the

organization's products (Bargh, Scott, & Smith, 1996). The term "beneficiary" is used instead of "customer" in order to incorporate business management and higher education management on customer responsiveness, as well as to encompass the higher education phenomenon of multiple concurrent customers and both internal and external customers (Chaffee, 1998). Here, comes a shift in terminology from "students" to "customers" in colleges and universities from a public service stand point to a business or management approach (Wong, 2008).

The scholars have the point of view due to the term of "customers" in higher education institutions as a symptom of insidious global "massification" and "marketization" of the colleges and universities. This shift from student responsiveness to "customer services" includes the business values into the higher education context such as: the importance of the pursuit of the profit over the others organizational goals; the superiority of entrepreneurial knowledge to expert or professional knowledge; high value assigned to competition and decentralization; and the appeal of the more autocratic style (Wong, 2008). Collis (1999) contended that higher education industry can be evaluated by same standards as by any other industry, and in fact higher education risks losing significant market share to new competitors from any other industries and early adopters of new technologies unless it adopts a more entrepreneurial and competitive approach towards meeting customers needs.

Cheffee (1990) and Cheffee & Sherr (1992) focus on "customer services" in the higher education institutions and support high quality services that HEI's impart to their customers i.e. "students". They also believe that the concept of "customer" in the context of HEI's is ambiguous but this cannot decrease their intensity to provide the best available services to their customers. Rather, the higher education institutions' leaders must persist that college and universities should take an active role in indentifying those customers--- multiple, internal and external--- in order to show continued relevance in a rapidly changing environment. Here, a question arises: whether it is necessary for a higher education institution to respond rapidly changing environment to address a greater purpose of reforms or mere only to survive? But it is very clear that the criteria for the success of higher education institutions' reforms or institutional changes is the degree of the impact of that reform or change that results in the effectiveness of organization. For Anthony Wong (2008), although, the HEI's are victims of many threats of relevance, yet the criteria for their effectiveness is the capacity of the organization how they respond their many "constituencies", term used for all of its stakeholders? For Tierney (1999) the systematic organizational change is directly related to the ability of that organization how it responds to its external and internal stakeholders. There is also a complexity of the claimants of the "ownership" of the university, whose university it is?

According to Horowitz (1998) since last 30 years students have become the focus point of the missions of the higher education institutions. Along with the demand of accountability by the students' collective population, the students' consciousness as customer has been increased about the choices of institutions (Collis, 2002; Frank,

1995), quality and services they wanted (Cheffee, 1998) and time and place of their instrumental activities (Levine, 2000). So, all about the awareness that today's students have, how an HEI's institution cannot respond them in a proper way.

Another, influential constituency is the internal one: faculty and staff who are under direct influence of any kind of institutional change or decision (Wong, 2008). According to the author, not only they claim "they are university" but they dominate all governing bodies, committees, academic senates, and university administration. Therefore, through these bodies and unions they mostly control the decisions at organizational level, but still other constituencies that demand them accountability.

The student alumni and other philanthropic donors of the higher education institutions as well as employers of the university graduates are also one of the HEI's constituencies. For Collis (1999) these groups may demand some benefits or may impact directly to the decisions of organizations as elected members of councils and some bodies. On the other hand the government as the biggest donor to the budgets of HEI's has raised the demand for accountability by legislators and public entities (Ewell, 1990; McGuinness, 1994). So, as members of boards and governing bodies', even ordinary citizen can influence higher education institution decision making (Benjamin & Carroll, 1998).

So, all the stakeholders whether internal or external can be termed as their "beneficiaries", whether as "customers" or "clients", how they are responded by the colleges and universities is the core of higher education ability to compete in a rapidly changing environment. It is organizational role to see students as customers or clients frames the assumptions about the external environment, parameters of success, tolerance for competition and entrepreneurial behavior, and constraints on organizational responsiveness to various stakeholders.

A Private Sector Solution to a Public Sector Problem?

When considering importing corporate entrepreneurship into higher education, this requires specific kinds of conditions in order to contribute to increase organizational performance. Hornsby (2002), and Stevenson & Jarillo (1990) all agree that internal accountability and flexibility is necessary in an organization for innovation. The authors also mention about such an internal environment is needed that allows a leader an opportunity to make mistakes without negative consequences but with high degree of accountability and close supervision of venture's financials. Russell (1999) emphasizes the presences of right leadership in the organization. The common traits of a leader: risk-taking, energetic, self motivated, creative, possessing strong negotiation skills, financially savvy, experienced with project management, supported by a network of specialists, generalist and the right middle management.

What type of structure in the organization work best to flourish corporate entrepreneurship; structured or open, small or big. Russell (1999), Schuler (1986). Rice (1999), Carrier (1996) and Stevenson & Jarillo (1990) all suggest that an organic

organizational structure with flexible mutual communication system at all level , loose networks, and autonomy and independence are necessary to generate spontaneous idea generation and creativity for an entrepreneurial culture. Kanter (1985) have some different attitude that an organic environment is needed to generate ideas, but to implement them it is compulsory to adapt a formal structure.

Antecedents of Public Sector Corporate Entrepreneurship and the Factors Influencing the Performance of the State Government Higher Education Institutions' Performance.

Public Sector Corporate Entrepreneurship can be effective tool to enhance the state Government higher educations' organizational Performance. In the Figure (1.1) antecedents and factors of public sector corporate entrepreneurship are influencing the performance of the state government higher education institutions through the

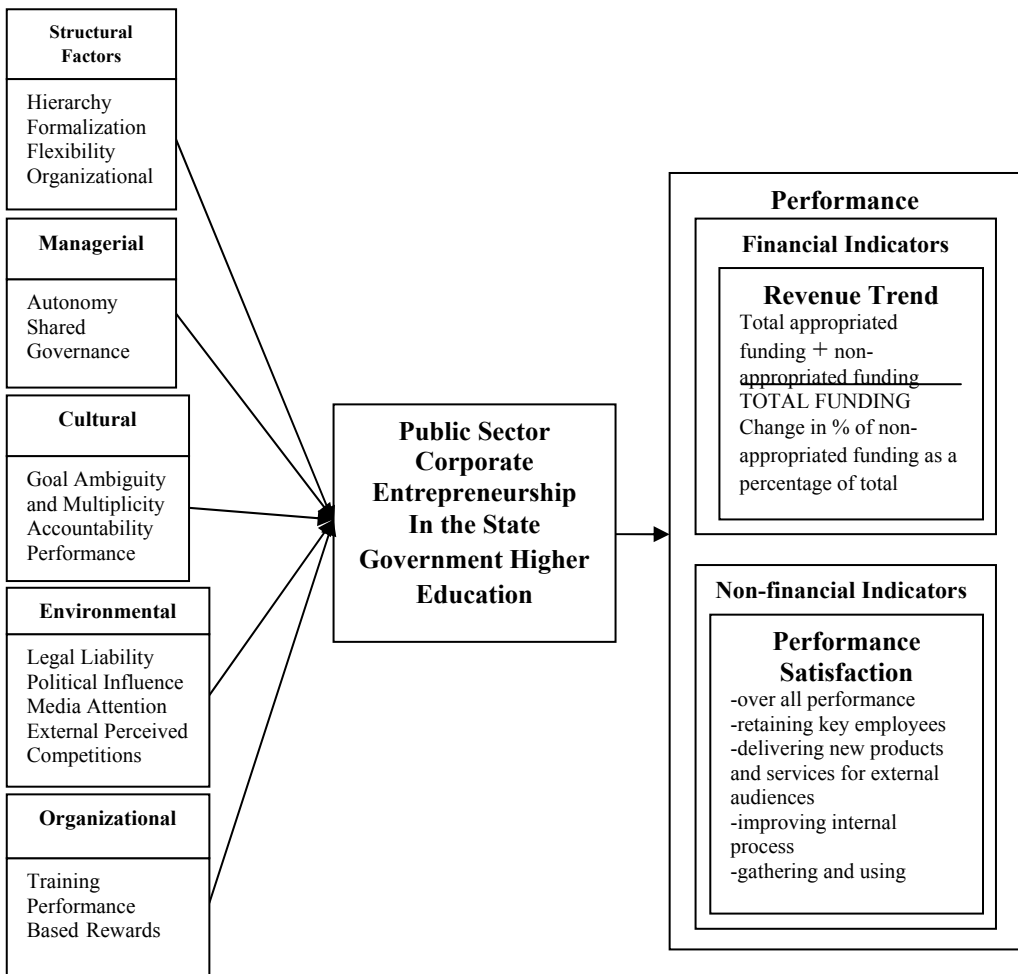


Figure 1. Theoretical Model of Antecedents and Outcomes of Public Sector Corporate Entrepreneurship in the State Government Higher Education Institutions

The proposed model depicts 17 factors that determine public sector CE in the state government higher education institutions grouped into five antecedent-clusters: structural, managerial, environmental, cultural and organizational support. The theoretical model of public sector corporate entrepreneurship suggests that each variable has different relationship with the entrepreneurial activities, and these variables ultimately affect the performance of the state government higher education institutions management. Figure (1.1) presents the theoretical model of public sector corporate entrepreneurship by depicting the relationship between identified variables with the mediating effect of three sub-dimensions of public sector corporate entrepreneurship at the state government higher education institutions offices. The framework also suggests the path effect of these variables on the organizational performance.

Elements of Public Sector Corporate Entrepreneurship for the State Government Higher Education Institutions

Risk-taking

Under uncertainty risk-taking has been regarded as an essential element of public sector corporate entrepreneurship (Younhee, 2007). In an hostile and dynamic market environment risk-taking propensity catalyses organizational change and innovative decision making for enhancing organizational performance of a public entity. Jennings and Lumpkin (1989) find that employees are not penalized in entrepreneurial organizations if some risky projects fail. West and Berthon (1997) explored the relationship between risk-taking behavior and four factors: (1) the propensity to take risk is a function of the relative organizational target performance; (2) the propensity to take risk is a function of organizational decision process; (3) the interaction between risk-taking cultural and performance; and (4) bottom up decision process have a positive effective on risk-taking propensity for organizations with high risk-seeking cultural.

According to Younhee (2007) risk-taking can be categorized into three types: financial risks, service-based risk, and relational risk. Risks that are associated with uncertainty are financials and related to organizational service just as to loose a contract to win may result in the closure of the service at a net loss. Service-based risks are those linked with a new and untried service e.g. a software package can become a risk not meeting the required results. Relational risks are connected to rules and political relationship.

Lynn (1998) criticized entrepreneurship as risk-laden; therefore, public organizations need to encourage risk-taking behaviors and activities due to unstable and entirely unpredictable policy environment (Moon, 1999). Here, Berman and West (1998) insisted that management reforms need propensity to improve government services. The government needs to promote “prudent risk-aking” and “experimenting” by providing room for failure in order to encourage proactive actions to solve complicated problems (Dilulo & Kettle, 1993).

Innovativeness

Innovativeness refers to “the seeking of creative, unusual or novel solutions to problems and needs”. It presents the propensity of an organization to empower, support or entrust its employees so that they may generate innovative and creative ideas through experimentation, new processes and technologies to solve organization’s problems and to improve performance (Salazar, 1992; Lumpkin & Dess, 1996). Innovation however, does not only stands for invention, but according to Marris & Kuratko (2002) the types of innovations are discontinuous breakthrough innovation, continuous dynamic innovation, continuous incremental innovation and imitation to a prior innovation. Younhee (2007) explored that any idea or behavior that is new to organization can be called innovation and the dimension of innovation of public sector entrepreneurialism may lead to the application of new ideas and existing resources in an organization. But Fox has the view that entrepreneurial organizations have planned approach for internal and external sourcing of new innovative ideas.

Pro-activeness

It depicts the kind of forward-looking strategy that may cope with a future demand and can shape the environment (Miller, 1987); willingness to take action to affect changes, and pursuing opportunities. For Younhee (2007) pro-activeness emphasizes on implementation for making things possible to pave way to the changes. A future setting and initiation for changes, rather than only reactions to some problems, are the essential elements of pro-activeness. Pro-activeness implies “the active search for creative solutions, service delivery taking the initiative to introduce change, implementation and responding rapidly to opportunities and employing the best resources, not passiveness or reactivity because of the overwhelming constraints and regulations inherent in the public sector” (Salazar, 1992). While on one hand traditional organizations are defensive and on the other hand entrepreneurial organizations are alert to new opportunities and proactively embrace them.

Determinant Factors of Public Sector Corporate Entrepreneurship in the State Government Higher Education Institutions

Entrepreneurialism in a public sector organization focuses on the development of entrepreneurial activities that have high propensity towards risk-taking, innovativeness, and pro-activeness. An “entrepreneurial university” according to Manuel Trajtenberg (2008) really has three possible meanings. First is the extent to which universities are innovative in terms of their own institutions, how they are structured and governed, and how they adapt to change. Second is the extent to which universities can drive entrepreneurship in the broader economy by generating ideas, training entrepreneurs, and working with business community. The third change throughout society at large”. While an entrepreneurial management system in a public sector institution means being output focused, encouraging competition, promoting participator decision-making, and measuring performance (Younhee, 2007). This investigation presents 17 factors that determine public sector CE in the state

government higher education institutions grouped into the five antecedent-clusters-structural, managerial, cultural, environmental and organizational support.

Structural Factors

The antecedent of organizational structure for the public sector corporate entrepreneurship in the state government higher education institutions is derived from the public entrepreneurship literature that includes four factors: hierarchy, formalization, flexibility and organizational size. Slevin & Covin (1990) and Cornwall & Perlman (1990) argue that entrepreneurial tendency in an organization can be improved and influenced by the organizational structures.

Hierarchy

Younhee (2007) defines an order of persons by rank or by level is known as hierarchy and in typical hierarchical administrative structures each level has authority over the levels below. According to Hage & Aiken (1970), on one hand, hierarchical system is likely to maintain the status-quo in organizations and reduce the probability of change and innovation. While on the other hand less hierarchical organizations are more innovative and adapt to change (Thompson, 1965). Moon (1998) found that the layers of administration cause delays and undermine communications. Organizations with highly hierarchical system may have greater transaction costs for each decision and function. Such type of environment may hurdle innovative decisions and new programs. Bridges et al. (1968) reports in an experimental study that hierarchical structure inhibits risk-taking decisions while on the other hand Covin & Slevin (1991) found that minimal hierarchical levels tend to have one structural entity of entrepreneurship.

Formalization

Hall (1996) depicts that formalization is the degree to which organizational activities are documented such as procedures, job descriptions, regulations, and policy manuals. To increase internal control and accountability and to reduce behavioral and goal ambiguities an organization enhances its stability and accountability by formal devices such as internal rules and regulations, and specific guide lines (Younhee, 2007). Ingram and Clay (2000) wrote that rules and enforcement mechanism insist to follow general patterns of behaviors, attitudes, and values. So, high profile formalization in an organization may reduce the chances of risk-taking and innovative activities.

Flexibility

Flexibility and low rigidity are the main traits of an organically structured and entrepreneurial organization (Jennings, 1994). According to Slevin & Covin (1990) there are two types of organizations organic and mechanical; the organic are more flexible, loosely controlled and inclined to be more consensual, while mechanical organizations are more rigid, controlled and hierarchical. Here, we can similarize an entrepreneurial organization with an organic one, because both are flexible,

decentralized, and free from rules and regulations (Jennings, 1994). So, entrepreneurial behavior can be fostered by the organic structured organizations.

Organizational Size

Quinn (1985) asserts that smaller organizations engage in better entrepreneurial behavior than larger because the larger ones have rigid rules and procedures that reduce the tendency of innovation and entrepreneurial actions. While contrary to it Schumpeter (1934) & Baumal (1985) support the larger organizations because they have both entrepreneurs and resources to manage any innovation and to implement it.

Managerial Factors

The review of public entrepreneurship literature depicts the managerial antecedent for the state government higher education institutions' corporate entrepreneurship that includes three factors: autonomy, participatory decision making, and specialization.

Autonomy

Ramamurti (1986) and Forster et al. (1996) argue to stimulate public sector entrepreneurship that managerial autonomy is a key component. Lumpkin & Dess (2001) define autonomy as an independent action or decision by an individual or team intended to bring forth a vision.

Shared Governance

Entrepreneurial organizations have tendency to be participative in nature (Jenning & Lumpkin, 1989). Entrepreneurship may flourish in an organization at all levels including executive and non-executive employees (Miller & Friesen, 1982). Indeed, empowering employees to be independent in their decisions making-increases the propensity of innovative ideas and activities (Hage & Aiken, 1970).

Specialization

Specialization stands for the varieties of professionalism and expertise that an organization has within it (Hall, 1996). If an organization has specialists at every level then it is possible for it to generate more and more innovative ideas and the propensity to implement them (Hage & Aiken, 1970; Thompson, 1965). As many specialists in an organization lead it towards flexibility of communication among internal members (Thompson, 1965) which produces entrepreneurial activities. Specialization also create some confidence at organizational level because more experienced and specialist professional lessen the degree of uncertainty that particular propensity is the seedling towards innovations and risk-taking (Moon, 1999).

Cultural Factors

The review of public entrepreneurship literature verifies the aspect of cultural as antecedent of public sector corporate entrepreneurship that comprised of three factors:

goal ambiguity and multiplicity (Drucker, 1995; Hall, 1996), accountability, and performance objectives (Younhee, 2007). According to Hall cultural aspect of the organization refers to norms, symbols, and values shared by organizational members. So, cultural is important to understand, develop or to maintain the entrepreneurial organizations (Cornwell and Perlman, 1990). In organizational settings entrepreneurship has a greater role. According to Younhee (2007) for greater degree of innovation an organization should flourish an entrepreneurial cultural.

Goal Ambiguity and Multiplicity

The literature depicts two schools of thoughts for the determinant factor of goal ambiguity and multiplicity (Younhee, 2007). First, in an organization at every level and in every department there are objectives and goals that form the direction of that particular department. According to Moon (1999) the clarity of goals enhances task motivation of members to specify target customers, prepare better strategies, and simplify the administrative procedures. Risk-taking propensity of members is also recalled to clarity and sharing of goals, because it allows the organization to tolerate a high degree of outcome uncertainty for certain expected probability of goal achievement (Moon, 1999).

The second school of thought insists that inconsistent objectives lead an organization towards the level to generate innovative solutions to the problems and to adapt entrepreneurial process (Saddler, 1999). And similarly, Younhee (2007) explores that goal ambiguity for the public organizations is an opportunity to implement entrepreneurship. Contrarily, when goals are too rigid and strictly developed then the organizations tend to be defensive and adapt mechanical behavior (Jennings & Lumpkin, 1989). In the public organizations ambiguous and multiple goal setting pave the way for innovative opportunities as well as flexibility due to unclear direction.

Accountability

Younhee (2007) elaborates the term accountability in the way that it refers to positive exploitation towards the future and willingness to be vulnerable under risk or uncertainty. Accountability permits a more efficient allocation of organizational resources by lowering transaction costs and increasing the flexibility of decisions. In addition accountability facilitates the organizational decisions to search for alternatives and new activities.

Performance Objectives

Ramamurti (1986) has a view that entrepreneurial opportunities are generated from performance objectives. Here, Younhee (2007) purposes that taking-risk enhances the performance of a governmental entity.

Environmental Factors

The fourth antecedent of the public sector corporate entrepreneurship for the state government higher education institutions has been derived from the entrepreneurship

literature is organizational environment and the factors include: legal liability, political influence, media attention and external perceived competition. These factors have direct implication for searching entrepreneurial opportunities and their effects (Davidson et al., 2001). The organizations capacity to behave entrepreneurially is influenced by the operating environment of an organization (Younhee, 2007). According to Covin & Slevin (1991) to understand entrepreneurial opportunities and entrepreneurial organizations the consideration of environmental factors is fundamental.

Legal Liability

Hall (1996) found that the daily activities of public institution exist within various legal frameworks. Managerial discretion according to Moon (1998) is negatively affected by external forces and legal constraints. To avoid possibility of legal constraints and obligation the organizations hesitate to take risky and innovative alternatives (Younhee, 2007).

Political Influence

The political environment of a public sector activity has been a critical influence on public sector management. Political requirements may not correspond with efficient and effective management practices (Sadler, 1999). To be responsive to the politicians and stakeholders an organization need high degree of the political involvement instead of paying attention to organizational outputs and performance (Younhee, 2007).

An organization with higher degree of political interaction is subject to greater external control from political authorities, which limit to exercise organizations' entrepreneurial decisions. So, political support is directly proportional to the willingness to innovation and its implementation.

Media Attention

How much government institutions' activities are open to public and stakeholders refer to the media attention. It indicates a matter of concern from external environments such as political, market, and community. Younhee (2007) explores those organizations due to the negative response from external environments take less risks. On the other hand organizations with a higher degree of media attention tend to a higher level of innovative and proactive propensities due to their positive images.

External Perceived Competitions

According to Younhee (2007) if an organization recognizes external pressures or external competition in a turbulent environment this creates the needs for innovative thinking and entrepreneurial activities.

Organizational Support Factors

Entrepreneurship literature verifies the organizational support as an antecedent of the

public sector corporate entrepreneurship which includes three factors: training, performance based rewards and R & I budget. According to Bostjan & Otmar (2004) organizational support has been seen as an important antecedent and its factors positively influence a firm's entrepreneurial activities.

Training

Thornberry (2003) has explored, "Many organizations are increasingly looking to corporate entrepreneurship as a key of combating the lethargy and bureaucracy that often accompany size. But managers who are expected to act like entrepreneurs can be trained to do so". Leibenstein (1986) argues in the way "The research associated with n Achievement theory indicates that it is possible to measure the varying strengths of entrepreneurial motivations in individuals, and that such qualities can be augmented through training".

The training can enhance the knowledge-based capacities of the organization that include employee knowledge and skills; technical information management systems; and information norms and values (Leonard-Barton, 1992). Jaworski & Kohli (1993) suggested that greater level of organization-wide communication and knowledge sharing result in greater organizational commitment and esprit de corps.

Research and Innovation Budget

The presence of corporate entrepreneurship has been linked to resource availability (Stopford & Baden-fuller, 1994; Slevin & Covin, 1997). In essence, employees must believe that they have the resources (including time) to be entrepreneurial (Hornsby et al.). The idea that resources and time are important substantiated in Damanpour's (1991) meta-analysis that found a positive relationship between slack resource availability and innovative activity in organizations.

Performance Based Rewards

Entrepreneurial activity within organizations can be improved by the proper use of rewards (Kanter, 1983). Rewards not only affect performance of individuals but even of organizations as well as in public entities bring about highly inflexible situations (Younhee, 2007). Boyett (1996) argue that introduction of quasi-performance-related pay schemes in the public sector, underperforming public employees are less likely to loose personal earnings as a result of marginal reduction in productivity. Younhee (2007) also argues in the way that performance-based reward system in public organizations is not present that even discourages public administrators endeavoring new ideas and innovations, rather, punishment is more wide spread. This fear of failure is an obstacle for public administrators to innovate.

In the private sector, reward system mainly means financial incentives, however, the application of financial rewards play a less significant role in the public sector (Saddler, 1999). In addition to financial rewards, non-financial rewards system for example employees' recognition and promotion as well as emotional rewards like self-satisfaction will encourage public employees towards entrepreneurial behavior.

The Performance: Outcomes of the Public Sector Corporate Entrepreneurship of the State Government Higher Education Institutions

Numerous measures of performance are associated with organizational entrepreneurship (Davis et al. 1991; Zahra, 1986). Due to multidimensional nature of performance, it is advantageous to integrate different dimensions of performance in empirical studies (Cameron, 1986; Cameron, 1978). State government higher education institutions are complex and each organization faces a unique set of circumstances. The theoretical model of the public sector corporate entrepreneurship in the state government higher education institutions suggests both financial and nonfinancial measures.

Financial Indicators

Sexton & Similar (1997) explored that identifying the rate of revenue change permits an assessment of the economic success of the organization. A revenue trend scale focused on change in total funding and change in percentage of non-appropriated funding can be detected by the information related to appropriate funding and non-appropriated revenue for the past five years. Non-appropriated revenue is defined as monies that were not appropriated directly to higher education institutions by federal, state and local governments.

Non-Financial Indicators

The level of satisfaction with overall organizational performance is indicated through six items focused on overall performance; retaining key employees; delivering new program; products, or services for external audiences; improving internal process; gathering and using knowledge; and managing change. So, over all organizational performance satisfaction was based on outputs and impacts. Outputs are number of publications delivered, or the number of participants and presentations. Impacts are the observed outcomes evident in short-term learning, medium term actions and long term conditions (Chinman et al. 2004; Taloyer-Powell, 2002). The overall performance dimensions as a non-financial indicator performance is linked to the rational goal model of organizational effectiveness (Etziozi, 1964; McClintock,1987).

Conclusion

In a turbulent environment and rapidly changing society, government sector higher education institutions have to leverage their current competencies and resources to adopt whatever new opportunities and challenges are identified. Therefore, the potential roles of entrepreneurship are expected to be expanded in the public sector. Public entrepreneurial orientations streamline HEIs' activities and behaviors to be more practical as well as to be more efficient.

Although, these entrepreneurial principles will not always result in high level of organizational performance, the development of public entrepreneurial orientation and activities will bring positive effect to organizational performance. The research

concludes that state government higher education institutions need to allow room for entrepreneurial activities, develop entrepreneurial principles and opportunities, and encourage entrepreneurial practices without simply transforming responsibilities through contracting out or privatization. In addition, state government higher education institutions should pay attention to overcoming organizational challenges related to building entrepreneurial capacities and promoting entrepreneurial actions.

This framework of corporate entrepreneurship in the public sector tertiary education sector may have some uncertain assumptions and statements inconsistent with previous research. Nonetheless, the research framework provides a starting point to develop a more applicable corporate entrepreneurship model to higher education management and enhance the quality of public entrepreneurship research.

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