

The Effect of Corporate Entrepreneurship Determinants on Performance of Public Higher Education Institutions in Pakistan

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Abstract

The objective of this study is to investigate the effect of four corporate entrepreneurship determinants; structure, management, culture and environment on organizational performance of public higher education institutions in Pakistan. Hypotheses were developed to determine the relationships between these determinants and performance of the institutions. Data were collected by means of structured mail survey questionnaires from the 225 faculty deans of the 74 state-owned universities in Pakistan, and multiple regression analysis was conducted to identify the predictive ability of the four determinants as independent variables on organizational performance. The findings reveal positive and significant relationships between management, culture and environment and performance. No significant relationship was found between structure and performance. The findings ultimately enhance the field of corporate entrepreneurship which focuses on improving the performance of the higher education institutions in Pakistan.

JEL classification numbers: L26

Keywords: Corporate entrepreneurship determinants, organizational performance, public higher education institutions

1 Introduction

The effectiveness and efficiency of the tertiary education institutions in Pakistan have been the longstanding issues since the last five decades. Ambiguous assignment of powers of governance, coordination, and oversight diffuses ultimate responsibility, while excessive centralization of authority and bureaucratic rigidity produces stultifying

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uniformity. This continuous problem has created a more hostile and turbulent environment as the institutions constantly need to keep with the changing needs of the 21st century. The deficiency has also increased the demands from many constituencies of higher education institutions to be more responsive to their stakeholders.

The increased costs, shrunk resources from the government, growing expectations from the students, and the technological and information advancements are some of the challenges that characterized the higher education institutions' environment. The context of tertiary education is changing and these institutions are hard pressed to adapt and survive in the new environment (Collis, 2002; Mullin, 2001). Therefore it is argued that if such environment is present then the higher education institutions seem to be ripe for corporate entrepreneurialism. The conditions that support corporate entrepreneurship in a business environment may also create similar situation for corporate entrepreneurship to be successful within the context of public institutions because scholars have the opinion that corporate venture flourish in a rapidly changing environment (Covin & Slevin, 1989; Zahra, 1993; Zahra & Covin, 1995; Russell, 1999). Corporate entrepreneurship is best practiced in an environment which is more dynamic, hostile and heterogeneous (Zahra, 1991; Nielsen, Peters & Hisrich, 1985). Thus, this research was undertaken to determine the effect of corporate entrepreneurship on organizational performance towards the sustainability of public higher education institutions in Pakistan.

2 Concept of Corporate Entrepreneurship

The idea of corporate entrepreneurship originated from Pinchot (1985) who termed it as 'intrapreneur'. Pinchot differentiated entrepreneurs from intrapreneurs in the context in which the entrepreneurial act occurs. The entrepreneurs are those who innovate for themselves while the intrapreneurs do it for the organization where they are employed. The intrapreneurs also emulate traits usually associated with entrepreneurs in seizing internal and external opportunities. Zahra (1991) defined corporate entrepreneurship as 'formal or informal activities to create new businesses in established firms through product and process innovations and market developments', while Guth and Ginsberg (1990) identified two major phenomena in corporate entrepreneurship; creation of a new venture within an existing organization, and strategic renewal which refers to efforts to revitalize, renew or transform an organization's strategy and structure. Covin and Miles (1999) described the four kinds of corporate entrepreneurship which are potential in developing competitive advantage. These are sustained regeneration where the object is to create a continuous stream of new products and innovations in existing products, organization rejuvenation which focuses on a firm's internal processes and procedures, and its ability to execute strategic changes, strategic renewal where the firm seeks to change on how it competes through aligning itself better with the external environment and position itself more competitively in a given market, and domain redefinition where the firm stakes out new markets that other competitors have not recognized or have underserved.

Many researchers believe that a firm must become more entrepreneurial and acts in an independent way for it to survive and prosper in a competitive market (Zhang, 2008; Zahra, Jennings & Kuratko, 1999; Dess, Lumpkin & McGee, 1999). This requires a pursuit of new opportunities, innovativeness, proactiveness, and risk-taking propensity, and continuous renewal of the organization (Hurley & Hult, 1998; Hult & Ferrell, 1997).

Those firms that are entrepreneurially oriented can easily recognize windows of opportunity, and they can quickly mobilize resources, organize systems, and implement strategies to exploit these opportunities (Stevenson & Grousbeck, 1992). Identifying opportunities and putting the ideas into practice are the essence of an entrepreneurial behaviour (Ireland & Webb, 2007). An entrepreneurially oriented firm usually practice corporate entrepreneurship (Ireland et al., 2009), and this practice leads towards increased organizational growth, strategic renewal, organizational change, and customer value added services (Shaw, O'Loughlin & McFadzean, 2005; Zampetakis & Moustakis, 2010). Thus, it has been widely agreed that organizations that adopt an entrepreneurial behavior will positively contribute to an improvement in performance (Lumpkin & Dess, 1996; Covin & Slevin, 1991).

3 Corporate Entrepreneurship and Public Higher Education Institutions

The emergence of knowledge economy and new movements in the culture and society, have challenged the traditional ideas about public higher education institutions (HEIs). These institutions are confronting with a problem to remain competitive and maintain a sustainable growth in the current environment of change with decreased traditional sources of funding, increased operation costs, and changing student populations. Those HEIs that reinvent themselves by becoming more entrepreneurial in the attitudes, behaviours, and characteristics of their management are more likely to survive and sustain in this rapidly changing environment. Evidences have suggested that organizations that learn how to facilitate entrepreneurship have a more competitive advantage and performing well (Zahra & Covin, 1995), and embracing the concept of entrepreneurship can address uncertainties because these organizations are quick and prompt in respond to changes in turbulence environment (Covin & Slevin, 1989). In addition, entrepreneurship can also generate new ways of funding, improve performance at operations level, and develop alternative means to meet socio-economic demands.

There are four factors that may indicate public higher education institutions to be entrepreneurial; structural, managerial, cultural and environmental. The organizational structure can be the determinant of entrepreneurial tendency which ultimately results in improved performance (Covin & Slevin, 1990; Cornwall & Perlman, 1990). The structure includes four factors; hierarchy, formalization, flexibility, and organizational size. When there is a fit between the structural factors and the entrepreneurial behavior, the organization can then perform better. Hierarchy is an order of persons by rank or by level where in a typical administrative structure, each level has authority over the levels below (Kim, 2007). An organization with high hierarchical system will find layers of administration that may cause delays and undermine communication. Such organization inhibits risk-taking decisions, and reduces the probability of innovation and change. On the other hand, organizations with minimal hierarchical levels tend to have one structural entity of entrepreneurship (Covin & Slevin, 1990). Formalization is the degree to which organizational activities are documented such as standard and procedures, job descriptions, rules and regulations (Hall, 1996). This documentation is to increase the internal control and accountability. By having formal devices such as rules, regulations, and specific guidelines, an organization can enhance its stability and accountability, and

reduces behavioral and goal ambiguities (Kim, 2007). However, a highly formalized organization reduces the chances of risk-taking and innovative activities (Ingram & Clay, 2000). Flexibility is the main trait of an entrepreneurial organization. According to Covin and Slevin (1990), there are two types of organization structure; organic and mechanistic. The organic structure is more flexible, loosely controlled and inclined to be more consensual, while a mechanistic structure is more rigid, controlled and hierarchical. Entrepreneurial behavior can be better fostered in an organic structured organization because it is more flexible, decentralized, and free from rigid rules and regulations (Jennings, 1994). The size of organization is also an important influencing factor for a firm to behave entrepreneurially. Although larger organizations have rules and procedures that are sometimes rigid and reduce the tendency of entrepreneurial actions, they have more resources to manage and implement any innovation, and are more competitive about entrepreneurial accomplishment.

The managerial determinant for corporate entrepreneurship includes four factors; autonomy, participative decision-making, specialization, and rewards based on performance. Autonomy is an act of an individual or group independently which is intended to bring forth a vision for the organization (Lumpkin & Dess, 2001). An organization with a high degree of autonomy can stimulate entrepreneurial behavior and innovativeness. Corporate entrepreneurship can also flourish in an organization where decision-making is participative in nature. Engaging employees at all levels and empowering them to be independent in their decision makings increase the propensity of innovative ideas and activities. Specialization refers to the varieties of professionalism and expertise than an organization has within it. If an organization has specialists at every level then it is possible that more and more innovative ideas are generated and implemented. The flexibility of communication among these specialists could also produce entrepreneurial activities because it creates confidence and lessen the degree of uncertainty at each organizational level (Moon, 1998). Entrepreneurial activity within an organization can be improved through proper use of rewards that encourage the pursuit of challenging opportunities and recognize creativity and innovativeness (Frederick, Kuratko & Hodgetts, 2007). If a proper performance based reward system is not present, employees are discouraged from endeavoring new ideas and innovations (Kim, 2007). Sometimes, the fear of failure is an obstacle for them to innovate.

Organizational culture refers to norms, symbols, and values shared by the members. Culture is important in creating motivation and setting attitudes, and can also be a critical aspect of competitiveness (Wickham, 2006). It comprises of three factors; goal ambiguity and multiplicity, accountability, and performance objectives. The clarity of goals in organization enhances task motivation of members to specify target customers, prepare better strategies, and simplify administrative procedures (Moon, 1998). However, goal ambiguity such as inconsistent objectives creates more opportunity to implement entrepreneurship. Ambiguous and multiple goal setting pave the way for innovative solutions to the problems as well as flexibility in decisions due to unclear direction (Sadler, 2000). On the contrary, when goals are too rigid and strictly developed, then the organization tends to be more defensive and adopt mechanistic behavior (Jennings & Lumpkin, 1989). Accountability refers to positive exploitation towards the future and willingness to be vulnerable under risk or uncertainty. Accountability permits a more efficient allocation of resources and facilitates the organizational decisions to search for alternatives and new activities. Accountability also can determine whether effective decisions are being made and tasks being performed efficiently (Kim, 2007).

Performance is the end result of activity, and opportunity for entrepreneurship could be generated from performance objectives. HEIs that emphasize performance objectives may encourage the willingness to be proactive and take risk to achieve the desired performance.

The organization capacity to behave entrepreneurially is also influenced by the operating environment of that organization (Kim, 2007). The uncertainty in the environment is usually a threat to the organization because it hampers the ability to develop long-range plans and to make strategic decisions. On the hand, it is also an opportunity because it creates a new playing field in which creativity and innovation can play a major part in strategic decisions (Wheelan & Hunger, 2006). Legal liability, political influence, media attention, and external perceived competitions are some of the environmental factors that have impact directly when searching for entrepreneurial opportunities and their effects (Davidson, Low & Wright, 2001). According to Moon (1998), the managerial decision is often negatively affected by the external forces and legal constraints. Some organizations hesitate to take risky and innovative alternatives to avoid the possibility of legal constraints and obligations. Thus, the daily activities of HEIs are confined within the various legal frameworks. The political environment of HEI has also been a critical influence on the management practices. To be responsive to the politicians and stakeholders, a HEI sometimes need a high degree of political involvement at the expense of organizational outputs and performance (Kim, 2007). A HEI which has higher degree of political interaction is often under greater control from political authorities, which limit the entrepreneurial decisions. Thus, political support is directly proportional to the HEI willingness to innovation and its implementation. Media attention refers to the organization's activities which are open to the public and stakeholders. Organizations that receive negative response from these stakeholders usually take less risk, while organizations with a higher degree of media attention tend to have a higher level of innovativeness and proactiveness due to their positive images (Kim, 2007). Changing external environment can create new opportunities at the same time it can destroy the existing ones. To be successful, the HEI needs to be in tune with its external environment. Nevertheless, organization that recognizes competition or pressures from the external environment usually thinks innovatively and acts entrepreneurially.

Based on the above discussions, the following research question was formulated.

RQ: Which of the four corporate entrepreneurship determinants; structure, management, culture, and environment are the significant predictors of the performance of public higher education institutions in Pakistan?

4 Methodology

Data were collected from mail survey of deans of schools and faculties of the 74 state-owned universities in Pakistan. The questionnaires were earlier developed based on previous studies and modified according to the conditions of higher education sector. These questionnaires were mailed to randomly selected 600 academic leaders, and 225 usable responses were received after a couple of follow-ups, giving an effective response rate of 37.5 percent. This response rate is considered reasonably adequate given the low response usually associated with mail surveys. It has been emphasized in the cover letter that there were no right or wrong answers, and that the responses would remain strictly confidential, and thus the social-desirability bias in this method was minimized. The non

response bias which is an issue in survey research was also tested. Non response bias exists when there are significant differences between the answers of respondents and non respondents. As suggested by Armstrong and Everton (1977) the respondents of the early wave were compared with respondents of the second wave. The early wave group consisted of 96 responses whereas the second wave group consisted of 129 responses. The T-test performed on the mean responses of the constructs for these two groups yielded no statistical differences, suggesting that no response bias exists in this study.

4.1 Measures

Four determinants structure, management, culture and environment were presented by Kim (2007) as antecedents to the corporate entrepreneurship in the public organization. These measures were adapted in this study as predictors to performance in public HEIs. Fourteen items each were to measure structure and management, ten items measured culture, and environment consisted of sixteen items. Respondents were asked to choose the options based on a Likert type scale ranging from 1 (strongly disagree) to 7 (strongly agree). For measuring performance, a subjective method suggested by Dess and Robinson (1984) was adopted. The four item questionnaire adapted from Kin (2007) was utilized. The measures consisted of an item used to assess cost savings from managerial procedures and service delivery, two items measuring an overall improvement in performance and employee's productivity, and a last item evaluated the level of customer satisfaction. The respondents were also asked to rate the performance on a seven-point rating scale.

4.2 Reliability and Validity

Prior to exploring and describing the relationship between structure, management, culture, and environment, and performance, the measures were examined and assessed to gauge reliability and validity. The Cronbach alpha coefficient was used to evaluate the extent of reliability and the test results ranged from 0.616 to 0.878 (See Table 1 below). Only structural factor achieved Alpha value of less than 0.7 but is still acceptable for use in the research (Hair et al., 2006).

Table 1: Reliability Analysis

Construct	No. of item	Alpha score
Structure	14	.616
Management	14	.803
Culture	10	.870
Environment	16	.878
Performance	4	.870

Factor analysis was used to check validity of the constructs. The suitability of the data for the analysis was first assessed through two tests; Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's Test of Sphericity. The KMO has to be more than 0.50 and Bartlett's Test of Sphericity has to be significant. The Tables 2 shows the KMO value of 0.847, and the Bartlett's Test of Sphericity significance level at $p < 0.001$. The results support the factorability of the data. Principle component analysis and

Varimax rotation were then performed. It was suggested that items that had factor loadings lower than 0.50 should be eliminated (Hair et al., 2006). The varimax rotated principle component factor analysis applied has resulted in four factors that explained 22.309 percent of the variance. Factor 1 was based on nine items that represented structure, Factor 2 was also based on thirteen items that represented management, Factor 3 was based on nine items that represented culture and Factor 4 with sixteen items represented environment. Seven items were omitted as they were below the threshold value of 0.50 or could not be identified with any of the factors.

Table 2: Factor Analysis

Items	F1	F2	F3	F4
My department has hierarchical process for project approvals	.841			
My department has highly structured channels of communication	.761			
My department emphasizes written rules/ procedures	.714			
My department is bound by strict internal rules/ procedures	.742			
My department is bound by red tape				
My department has rules and procedures	.667			
My department integrated a new unit in the past three years	.545			
My department is flexible in decision making				
My department has rigid financial controls to allocate resources to new projects/programs	.748			
	.734			
My department deals with highly specialized tasks		.787		
The employees determine resource allocation within my department		.747		
The management sets its strategies/objectives without any external approvals		.708		
My department offers educational opportunities when employees perform at high level		.647		
My department rewards high performing employees with higher pay		.514		
The employees are gifted with financial incentives when they perform at high level		.851		
The employees' promotions are based mainly on performance		.821		
My department encourages the participation on non-executives in the decision making process		.805		
Non executives participate in formulating new policies/strategies/administrative procedures		.736		
The employees receive recognition when they perform at high level		.819		
Non executives participate in the financial/ budgeting decision making process		.673		
My department emphasizes employee performance evaluation		.917		
The employees have enough authority to determine how to do their job		.725		

My department has clearly defined goals	.867
My department has skilled employees with higher degree	.848
My department emphasizes interactions with stakeholders and citizens	.690
The employees are aware of the organization's goals/mission statements	.562
My department is accountable to stakeholders and public	.523
My department has multiplicity of goals	.576
Customer surveys or other formalized evaluations are performed often	.810
My department has developed performance objectives	.701
Customer surveys or other formalized evaluations are important	.675
My department raises public awareness via the media when new policies are implemented	.875
My department is the subject of media attention	.792
My department competes with other departments for delivering public service	.580
The departmental behaviors and outcomes are affected by external interactions with political, economic and citizen authorities	.834
My department is able to implement new policies/projects without political approvals	.784
My department is able to forecast external demands and changes	.749
The public sector reform programs affect my department	.559
My department faces competition with other organizations from private and non-profit sectors	.866
My department competes with other departments in applying for projects and grants	.777
Political consideration influences my departmental decisions	.791
My department has a large number of external sources of formal authority and influence	.724
My department needs greater political support in order to obtain authorization for actions	.623
My department receives media criticism when project fails	.620
My department is constrained by legal liabilities	.740
My department is prohibited by law from transforming funds from one project to another	.735
The external environment of my department is rapidly changing	.622
Percentage of variance explained: 22.309	
KMO: 0.847	
Bartlett's Test of Sphericity: Sig $p < 0.001$	

5 Results and Discussions

5.1 Descriptive Statistics

Table 4 presents the means and standard deviations (SD) for the variables. Based on the highest scale value of 7.0, the mean for structure was 4.66 (SD = .96), the mean for management was 4.05 (SD = .90), the mean for culture was 4.89 (SD = 1.22), and the mean for environment was 4.11 (SD = 1.03). These results show that means for structure and culture were higher relatively to management and environment.

Table 4: Means of Variables of Study

No.	Construct	N	Mean	SD
1	Structure	225	4.66	.96
2	Management	225	4.05	.90
3	Culture	225	4.89	1.22
4	Environment	225	4.11	1.03

5.2 Hypotheses Testing

Multiple regression analysis was used to test H1, H2, H3 and H4 to ascertain whether a significant amount of the variation in the performance could be explained by these variables. The results show that management ($\beta = .360$), culture ($\beta = .139$) and environment ($\beta = .189$) significantly contributed to predicting performance. Structural factor had no significant relationship with performance and thus was not a good predictor to overall performance. The four constructs explained 48.0 percent of the variability in performance. Given the three significant constructs, management was the best predictor and contributed the most to total performance.

Table 5: Regression Analysis

	B	T	Sig.
Structure	.109	1.48	n.s.
Management	.360	4.45	.000*
Culture	.139	2.04	.000*
Environment	.189	2.56	.000*

* Sig $p < 0.001$

The results show that the structure has no significant relationship with organizational performance. Thus the data did not verify the causality of hierarchy, formalization and flexibility to affect the organizational performance. The results are very opposite to the previous literature where structure was the main tacit of an entrepreneurial organization. This shows that the structures of public HEIs in Pakistan are rigid and not flexible, and also the decision making process is not identical with no formal authority for accountability due to provincial and federal governments' direct influence. According to Hage and Aiken (1970), the hierarchical system maintains the rigid system and avoids the innovation and change. The results also depicts that HEIS in Pakistan are less inclined towards change and innovation because of unfavorable structural system that is a hindrance for performance. Hall (1996) argued for documentation of organizational activities for better performance but the insignificance of structure with organizational

performance shows no such regulations and procedures to be followed in HEIS in Pakistan that determine less performance and no better innovations and changes. Significant and positive relationship was found on management and organizational performance in the public HEIs in Pakistan which are autonomous bodies. According to Ramamurti (1986) and Forster et al. (1996) managerial autonomy is a key component of entrepreneurship in any public sector organization. The accountability in higher education is to respond to external stakeholders or client expectations. As pillars of higher education system universities are supposed to be insulated from all extraneous influences, so that they can function effectively. The autonomy the universities possess is to develop their academic programs, recruit, assess and develop their faculty; and select, train and educate their students. Being the autonomous organizations these institutions are independent to take actions and decisions to bring forth their vision.

Significant relationship has also been found to exist between culture and organizational performance. Entrepreneurship thrives in a culture where the organization as a whole is pushing or struggling against something that is considered a norm in other organizations. Many entrepreneurial start-up companies see themselves as pushing against the corporate environment and breaking out of established procedures and communication (Dougherty, 1990). Kliewer (1999) and Grant and Riesman (1978) in their studies of innovative colleges and universities, found their organizational cultures were designed around opposition to a particular aspect of traditional higher education institutions, such as the multiversity model. This reveals that environment has a significant relationship with organizational performance. Covin and Slevin (1991) and Russell (1999) also found that entrepreneurialism is influenced by the organization's environmental characteristics, its business and mission strategies, and other variables such as resources and competencies, structure, culture, and management values. Thus the entrepreneurial posture of an organization is a dynamic social process involving environment.

6 Conclusion

The expectation of greater efficiency and performance has resulted in increasing demands for higher education accountability. New accountability initiatives have emerged, layered upon previously established accountability programs. With institutions responding to numerous accountability programs, the present challenge is not the absence of accountability or the quantity of accountability. Clark (2004) termed 'collegial entrepreneurialism' for an institution to embrace for it to be entrepreneurially effective. This means that a good number of individuals in the institutions must be willing to participate in a joint effort. Members of the group must be seen more as colleagues than as superiors and subordinates. Clark (2004) further suggested that for an entrepreneurial institution to survive and thrive, a new form of collegiality must take hold. However, he acknowledged the existence of the collegiality of old which was often mired in the status quo. Thus the universities must find ways to minimize the chasm that is often typical of their interrelationships. In addition, bureaucracy does not work in an entrepreneurial institution. It impedes the need for fast decision making and agility in responding to the market (Shattock, 2005). Hines (2008) suggested that shared governance is important for a fast decision making to accommodate the implementation of entrepreneurial endeavors. This is possible if the individuals in the institutions work together collaboratively and collegially with a basis of trust and mutual respect.

This research attempts to develop a theoretical research framework for corporate entrepreneurship in the public higher education institutions in Pakistan at organizational level. This study asserts that entrepreneurship in the public sector organizations is not a completely new form of entrepreneurship. Rather, entrepreneurship in the public sector works with similar principles as private sector entrepreneurship does. Although public organizations are different from private entities, the former do not require an entirely different theoretical approach in order to incorporate entrepreneurial practices. However, by reason of fundamental differences in organizational realities between public and private sector the key component for supporting entrepreneurial activities and opportunities in the public higher education institutions are unique. In addition, each determinant's impacts on the corporate entrepreneurship and its effects on organizational performance are different in the public higher education institutions in Pakistan. The theoretical framework of corporate entrepreneurship in the public HEIs sheds light on unexplained phenomenon of entrepreneurial opportunities and activities in the public sector in order to promote their contribution to public higher education institutions' ultimate goal of performance.

Most public higher education institutions in Pakistan are aware that entrepreneurial opportunities and attempts are a key for promoting efficiency, improving performance, and delivering better service to the public. They perceive that the needs of entrepreneurial activities are growing over time and the value of corporate entrepreneurship is highly considered as one of the reinventing mechanisms in the public higher education institutions. A range of barriers and constraints to adopting entrepreneurial activities exist in the public sector, but public higher education institutions have to pay attention to opportunity-driven strategic orientation derived from public entrepreneurial activities rather than a resource-driven strategic direction when public sector entities design their organizational scheme. Although the model of corporate entrepreneurship in the public higher education institutions is not a formal blueprint or a comprehensive framework replacing a variety of models of public sector management, corporate entrepreneurship in the public higher education institutions may be an integral component in models of public management.

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