

# How Corporate Entrepreneurship Can Enhance Organizational Performance in Public Universities of Pakistan?

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**Abstract:** *The objective of this study is to investigate the mediating effect on the relationship between managerial factors and 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 managerial factors as independent variables on organizational performance and corporate entrepreneurship as mediator. The findings reveal positive and significant relationships between managerial factors and performance and full mediation of corporate entrepreneurship between managerial factors and organizational performance. The findings ultimately enhance the field of corporate entrepreneurship which focuses on improving the performance of the higher education institutions in Pakistan.*

**Keywords:** Corporate entrepreneurship, Managerial factor, organizational performance and public higher education institutions

## 1. Introduction

The effectiveness and efficiency of the performance of the tertiary education institutions in Pakistan have been the longstanding issue since last five decades. The higher education sub-sector in Pakistan manifests four institutional deficiencies. Ambiguous assignment of powers of governance, coordination, and oversight diffuses ultimate responsibility. It is unclear who should be held accountable; effective planning and management are impossible. Excessive centralization of authority and bureaucratic rigidity, both within and across institutions, produces stultifying uniformity; all institutions work to the lowest common denominator performance. This continuous problem of low performance of the state government higher education institutions has made the institutions' environment more hostile and turbulent to cope with the changing needs of 21<sup>st</sup> century and globalization. The deficiency also increases the demands from many constituencies of higher education institutions to be more responsive to their stakeholders. Thereupon, the traditional and collegial systems of higher education institutions need some changes to adopt some entrepreneurial models to overcome the ever-declining performance. To fill the gap, this investigation is a pursuit to develop an entrepreneurial mindset to enhance the performance of the state government higher education institutions in Pakistan.

### 1.1 Background

The circumstance that allow room corporate entrepreneurship (CE) 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 e.g. (Covin&Slevin, 1990; Miller & Friesen, 1984; Russell, 1999; Zahra, 1991; Zahra, 1993) and the same is that facing Higher Education Institutions today (Wong, 2008). Zahra (1991) verifies that

entrepreneurial activities are intensified in dynamic, hostile and heterogeneous environment. For Russell and Russell (1992) uncertain environment correlates with a successful entrepreneurial venture. In a rapidly evolving environment intrapreneurship is practiced best (Nielsen, Peters, & Hisrich, 1985).

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) contends 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 customer's needs.

### 1.2 Problem Statement

After passing a period of more than five decades the higher education institutions in Pakistan cannot get the required level of performance instead even declining. During pre Higher Education Commission (HEC) era (1947-2002), five Education Policies of 1970, 1972, 1979, 1992 and 1998, along with eight Five Years Plans fail (Shami, 2005) that results in even closure of University Grant Commission (UGC) itself. The gigantic higher education reforms during post Higher Education Commission era (2002-2011) through the National Education Policy [NEP], 1998-2010), The Boston Group Report [TBG], 2001), Education Sector Reforms, [ESR], 2001-2004), Task Force on Improvement of

Volume 6 Issue 2, February 2017

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Higher Education in Pakistan [TFIHEP], 2002), Parliamentary Steering Committee on higher education [SCHE], 2002), establishment of Higher Education Commission [HEC], 2002) the predecessor of former UGC, Medium-Term Development Framework for higher education [MTDF], 2005-2010), World Bank Higher Education Policy Note [WBHEPN], 2006), and New Education Policy [NEP], 2009-2015) effort towards market-oriented higher education organizations and have made it possible to stimulate entrepreneurial practices in the public sub-sector of tertiary education arrangements due to the existence of a dynamic or even heterogeneous market environment.

Thereupon, Kliewer (1999) argues if such hostile and uncertain environment is present then higher education institutions seems to be ripe for entrepreneurialism. A multitude of demands characterized Higher Education's internal and external environment, some new and some old: economic pressure has shrunk resources and increased costs, growing expectations to deal with student population and the nature of work for graduates, technological and information management needs dramatically have been increased and the responsiveness from multiple stakeholders within and outside institutions has been demanded much than before (Tierney, 1999). The context of higher education is changing, and institutions are hard-pressed to adapt to new environment to survive e.g. (Collis, 2001; Collis, 2002; Mullin, 2001). The methodical pace of traditional higher education decision making through collegial models makes it difficult for higher education institutions to respond rapidly to these changing pressures (Benjamin et al. 1993). So, an entrepreneurial model is vital to cope with all these barriers and to fill the gap of improving performance in the state government higher education institutions.

This investigation verifies the factors that indicate public Higher Education Institutions in Pakistan to be managerial factors (Younhee, 2007). The is managerial one and it is under investigation and other three factors beyond the scope of this study. The managerial factor that includes autonomy, participatory decision making, and specialization are the basic features of an entrepreneurial public entity (Younhee, 2007). This research focuses on higher education institutions organizational context to define the relationship between the managerial determinant factors with the performance of the state government higher education institutions in Pakistan. Most importantly, this research proposes that corporate entrepreneurship (CE) in the state government higher education institutions in Pakistan would act as a mediator on the relationship between the managerial factor and the organizational performance.

#### 1.4 Research Questions

This research will answer the following research question:

1. Whether the managerial factor is the predictor of the performance in the state government higher education institutions in Pakistan?
2. Whether the mediation of corporate entrepreneurship (CE) in the state government higher education institutions in Pakistan is accrued full or partial on the relationship between the managerial factors and the organizational performance.

#### 1.5 Objectives of the Research

- 1) To examine significant relationship between the managerial factor and organizational performance.
- 2) To determine significant relationship between corporate entrepreneurship (CE) and the organizational performance.
- 3) To determine whether corporate entrepreneurship (CE) mediates the relationship between the managerial factor and the organizational performance.

#### 1.6 Significance of the Study

The study about the effect of corporate entrepreneurship in the state government higher education institutions in Pakistan on the relationship between the managerial factor and the organizational performance is a potential value to the existing literature related to the Organization Life Cycle Theory. Therefore, the researchers, scholars, practitioners, and organizations (leaders and employees) are beneficiaries of this investigation.

#### 1.7 Definitions of Terms

##### 1.7.1 Organizational Performance

The literature of management shows how the organizational performance has been defined differently by many researchers. For the purpose of this study, it is found appropriate to follow the definition provided by Antony and Bhattacharyya (2010). They define the organizational performance as the measure that to evaluate and assess of an organization to create and deliver the value to its internal and external stakeholders.

##### 1.7.2 Corporate Entrepreneurship in Public Sector

It has been defined by Javed and Rosli (2010), "A powerful form of public entrepreneurship that prevails within a public or non-profit organization promoting non-bureaucratic mechanisms to remedy fundamental problem of traditional bureaucracy by changing organizational structures, processes, and cultures through the organizational behavior of risk-taking, innovation, and pro-activeness; 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."

##### 1.7.3 Managerial Factor

For this study managerial factor is the translation of identity into function, integrating both organizational tasks so that the institution's actions have a good fit with its identity. This study explores autonomy, participatory decision-making, performance-based rewards, and specialization as the main facets of managerial factor.

## 2. Literature Background

### 2.1 Higher Education in Pakistan

Higher Education in Pakistan is plagued by many problems. The higher education institutions have not been able to achieve the main targets and milestones set in the past, which are to provide Pakistan with knowledge-led society coated by moral and intellectual excellence. The academic ability that

is lacking can develop logical thinking and can contribute effectively towards the industrial, economic, technological and social development of the country. The most pressing issue of Higher Education in Pakistan include, among others, a flawed institutional framework, inefficiency and ineffectiveness, problematic nature of design and delivery of service, irrelevance and wastage, under-funding and low productivity in the research. Higher Education is considered as a source of great potential for the socio-economic-political development of the country. It is a generally regarded truth that through quality higher education an under-developed nation can be transformed into a developed nation within the span of a single generation (Chauhan, 2008).

Rapid expansion of the educational system, limited financial input and periodic student unrest has blocked the teaching/learning process, despite the efforts of the government to improve the situation. The interface between universities and industries has not taken place. Higher education which was supply-oriented in the past is showing signs of working on the demands of the market. The growth of institutions in computing, engineering and business administration is a witness to this development. The charges that universities in their present form are neither working as knowledge factories nor they are frontiers of knowledge, which is the vital hallmark of a modern university. This seems due to low investment, scarcity of resources and paucity of funds to which this sector has been subjected. There is however, inefficient use and wastage of public funds. The research base in universities is weak, and inadequately equipped libraries, laboratories and a shortage of qualified teachers continue to hinder the progress of higher education towards achieving international standards. The system of affiliated colleges is a source of great dissatisfaction (Safdar, 1996).

The literature since 1947 till the year 2012, and the enormous increase in the number of universities and degree awarding institutions in both public and private sectors has been observed. This growth put the teaching resources of the country to a severe shortage. It also affected on social and educational planning in both creating new openings and stretching the existing ones. In addition, some questions of standard and general quality had also been raised. Much of this pathetic situation resulted from the failure of the University Grants Commission (UGC), a constitutional body Higher Education Commission (HEC) was established to tackle the issue of higher education to the optimum use of national benefit (Jahangir, 2008).

## **2.2 Corporate Entrepreneurship and the Higher Education Institutions**

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. Different authors e.g. (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 e.g. (Kuratko, Montagno, & Hornsby, 1990; Miller & Friesen, 1984).

Clark (1998) suggests that corporate entrepreneurship 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 (Wong, 2008).

## **2.3 Managerial factor**

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

Autonomy: Ramamurti (1986) and Forster et al. (1996) argue to stimulate entrepreneurship in public sector that managerial autonomy is its key component. Lumpkin and 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, 1984). Indeed, empowering employees to be independent in their decision making that 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 creates 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). 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.

## 2.4 Organizational Performance

Understanding and improving performance is a central aim of entrepreneurship research (Covin&Slevin, 1991; Murphy, Trailer, & Hill, 1996). Researchers suggest that organizational-level entrepreneurship leads to improved performance e.g. (Brown, 1996; Naman&Slevin, 1993; Zahra, 1996; Zahra &Covin, 1995). Studies have included both objective measures which are obtained from organizational records and subjective measures which are perceptions collected from organizational members and stakeholders (Campbell, 1977). Rigorous empirical research examining the link between entrepreneurship and performance is still limited e.g. (Covin&Slevin, 1991; Zahra &Covin, 1993). Recognizing the multidimensional nature of the performance construct, Lumpkin and Dess (1996) recommend using multiple performance measures, such as financial indicators, satisfaction with overall performance, and stakeholder support (Voss, Voss & Moorman, 2004). The immense debate on what measures are preferable when measuring performance has revolved around the use of financial or non-financial indicators e.g. (Hayes & Abernathy, 1980; Johnson & Kaplan, 1987).

In addition to financial indicators, the literature has mentioned several possible non-financial outcomes to evaluate the potential influence of entrepreneurship on organizational performance e.g. (Bromwich &Bhimani, 1994; Zahra, 1993). Some of the very best managerial actions and innovations do not yield measurable financial performance but they define the organization and give meaning to its different activities (Kanter, 1989). Possible non-financial outcomes include keeping the organizations' most talented people (Peters & Waterman, 1982); creating value for a variety of stakeholders e.g. (Graves &Waddock, 1994; McGrath, Venaktraman, & MacMillan, 1992; Ogden & Watson, 1999; Ruf, Muralidhar, Brown, Janney, & Paul, 2001) process innovations (Wiklund& Shepherd, 2003); gathering and using knowledge (Lumpkin & Lichtenstein, 2005); and managing change (Hage, 1999). An organizational performance construct was operationalized by Jawaorski and Kohli (1993) with two judgmental questions. In their study, respondents were asked for their opinion of the previous year's overall performance of their organization and their overall performance relative to leading competitors.

The concepts of performance and effectiveness have been central to organizational and management theory (Boyne, 2003; Rainey, 1997). Organizational performance is a complex and multidimensional phenomenon which can be difficult to operationalize (Dess& Robinson, 1984; Ford & Schellenberg, 1982). Performance evaluation practices involve a number of performance measures used to systematically measure the performance of the organization in order to maintain or alter organizational activities (Simmons, 2000). The goal approach focuses on output and explicit goal-based behaviors (Eztioni, 1964). The systems resource approach provides a framework based on how effectively an organization obtains resources needed for high performance and survival (Yuchtman& Seashore, 1967). The internal process approach addresses efficient use of resources

and harmonious internal functioning. The constituency or stakeholder approach focuses on benefiting numerous internal and external constituencies (Thompson, 1967). The competing values approach integrates diverse concepts of effectiveness.

## 3. Theoretical Framework and Hypotheses

Education is the basic need of every society. A better education system can improve a country's social, scientific, and technological capabilities and capacities. The quality of education imparted in a country is the only tool to develop human resources (Mohanthy, 2000). According to the constitution of Pakistan the education above higher secondary education that is catered in colleges and universities is termed as higher education. Allen (1988) argues, "It is academically consider suitable to present distinctive feature of two stages for the purpose of clarity of concepts and avoiding duplication". Thereupon, according to Best, (1994) higher education is distinctively a separate stage quite different from primary, secondary, elementary, and higher secondary stage.

For socio-economic and development of a country higher education is considered as a capital investment (Barnet, 1990). It is foremost responsibility of the institution of higher education to equip individuals with advanced knowledge and skills required to serve in government, business and other professions (Mughal &Manzoor, 1999). Stone, Horejs, and Lomas (1997) states, "The nation can be transformed into a developed nation within the life time of a single generation". According to Mughal and Manzoor (1999) the elements such as the distinctive nature of higher education institutions, international mobility of students, and teachers' accessibility of computer based learning, pursuit of research and scholarship, globalization of economy, and emerging challenges of the 21st century have a direct impact on the future development of higher education.

The people in Pakistan are neither deficient in talent nor in moral qualities as compared to any other nation of the world, but colonial rule of two centuries and blind westernization, unsuitable for to the genius and spiritual condition of its people, have spoiled some of virtues and have brought a bad name to their intellectual capacities (Siddiq, 1978). Hassan (1990) states, "Pakistan is unfortunately really backward in education as in certain other spheres of intellectual activities but luckily people are not inherently incompetent or morally incurable." However, it is vital to diagnose about maladies and they should be eradicated as well as the measures for curing these maladies should be appropriate in the light of the diagnosis (Abdullah, 1992). Here, this research is a serious pursuit to find a way to transform and improve the state government higher education institutions in Pakistan by adopting an entrepreneurial approach.

The entrepreneurial behaviors in larger organizations, generally, have been termed corporate entrepreneurship. It is observed that the diffusion and adoption of corporate entrepreneurship has positively affected organizations' performance (Sambrook& Roberts, 2005). MacGrath and MacMillan (2000), for instance, observed entrepreneurial behaviors in global companies such as Citibank, General

Electric, and Honda led to breakthrough products and services, development of new technologies, and increased performance. Accordingly, several researchers have tried to isolate the organizational factors that promote corporate entrepreneurship.

This study shifts the focus from the private sector organizations to the public sector how the later can become more entrepreneurial. To do this, we capitalize on the efforts of previous researchers that have identified key antecedents of entrepreneurship in the public organizations. And, the researcher is to test whether these factors might help leaders promote entrepreneurial activity in the state government higher education institutions in Pakistan. Thereupon, this study is to develop an entrepreneurial mindset within the state government higher education institutions in Pakistan because senior leaders have mandated that the state-run institutions of higher education must become entrepreneurial.

With this purpose in mind the researcher is going to test the framework. As suggested in the model, the public sector corporate entrepreneurship is influenced by empirically derived factor (i.e., managerial factor). When focus fostered among senior leaders of the institutions, corporate entrepreneurship in the public sector is expected to lead meaningful outcome that is organizational performance. Prior to the hypothesis development, the definition of corporate entrepreneurship in the public sector is presented that guided this study.

### 3.1 Hypothesis Development

This section discusses on hypotheses development based on the past relevant literature. Therefore, the following sub-sections discuss the hypotheses in line with the research questions and objectives of the study reported in the first chapter. However, all the statements of the hypotheses are in the alternative forms.

#### 3.1.1 Managerial Factor and Organizational Performance

In contrast to this vision, the researchers e.g. (Clark 1998; Hisrich & Peters, 1986; Joni, Bell, & Mason, 1997; Kanter, 1984) focus on the role and importance of strong management. For example, the characteristics of entrepreneurial leaders have been well documented in research on corporate entrepreneurship. Some researchers e.g. (Shatzer & Schwartz, 1991; Sykes, 1986; Kuratko, Montagno, & Hornsby, 1990; Sykes & Block, 1989) describe entrepreneurial leaders as risk takers, self-motivated, creative, and energetic. The early identification of these entrepreneurs, their placement in the right location within the organization, and ensuring their proper training are suggested by the researchers e.g. (Shatzer & Schwartz, 1991; Souder, 1981; Fry, 1987; Kanter, 1985). Shatzer and Schwartz (1991) encourage training new entrepreneurial leaders in motivation, financial processes, and project management.

Different authors (Sykes, 1986; Stevenson & Jarillo, 1990) focus on the selection of the right entrepreneurial leaders who possess experience and willingness to pursue entrepreneurial ventures. Beyond selection and initial training e.g. (Antoncic & Hisrich, 2001; Carrier, 1996;

Kliewer, 1999; Kuratko, Montagno, & Hornsby, 1990; Quinn, 1985; Rice, 1999; Sykes & Block, 1989; Stevenson & Jarillo, 1990) suggest that ventures are successful when organizational leaders follow a clear road map, have good timing and sense of the market, conduct regular evaluations, screen innovations for impact, and support management through resources, rewards, and realistic expectations. These authors encourage tight coupling to increase individual accountability for management, such as formal controls to closely monitor entrepreneurial activity. The previous arguments and other supporting ones led to the following hypothesis to be proposed.

*H1: Managerial factor will have a positive relationship with organizational performance.*

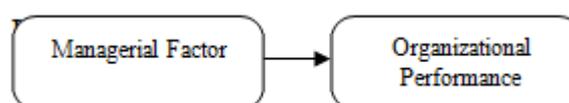


Figure 3.1: Proposed Hypotheses 1

#### 3.2.2 The Mediating Role of Corporate Entrepreneurship between Managerial Factors and the Organizational Performance Relationship in the State Government Higher Education Institutions in Pakistan

This research suggests that corporate entrepreneurship in the state government higher education institutions in Pakistan would act as a mediator in independent-dependent variables relationship. In past research the exact mediation role of corporate entrepreneurship in the said relationship has not been empirically tested. According to Baron and Kenny (1986) mediation could exist, but it may be in one of three alternative forms. The first alternative form is a single, dominant mediator. In this case, the direct relationship between the independent variable and the outcome variables is zero, whereas the outcome variables are impacted through the mediator. The second alternative form is a potent mediator.

In this case, the outcomes variables are also impacted through the mediator but the direct relationship between the independent variables and the outcome variables are is not zero, hence indicating operation of multiple mediating factors. For a mediator to be considered potent, the path from the independent variables to the outcomes variables should be significantly reduced by the introduction of the mediator. If the path is not significantly reduced the mediator can be considered non-potent (the third alternative). The past research indicates that the determinants have significant relationship with public entrepreneurship as well as public entrepreneurship has significant relationship with the organizational performance.

The entrepreneurship literature is replete with support for the impact that both entrepreneurial orientation and corporate entrepreneurship have upon various performance metrics. Corporate entrepreneurship in particular has been shown to positively influence many measures of firm performance. In particular, CE has been shown to enhance firm-wide financial performance e.g. (Zahra & Covin, 1995; Zahra, Neubaum & Huse, 2000), as well as organizational growth and profitability (Covin & Slevin 1986; Zahra 1991; Zahra & Covin, 1995). This relationship has proven robust regardless

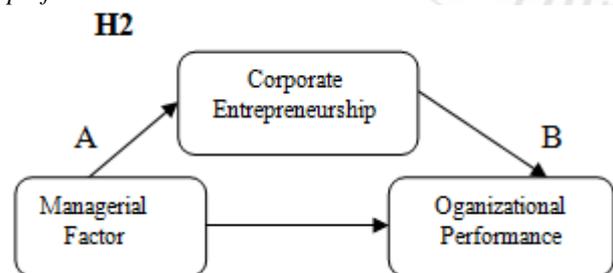
of geographic region e.g. (Goosen, Coning & Smit, 2002; Antoncic & Hisrich, 2001; Hornsby, Kuratko & Montagno, 1999; Zhang, Wan & Jiao, 2008) or firm size (Antoncic & Hisrich, 2003).

In addition, CE has been shown to influence innovation and new product development. Bruce (1994) notes a positive relationship between the innovative behavior inherent to CE and the volume of new inventions. Hornsby suggests that entrepreneurial efforts on the part of various levels of management may result in an increase in new idea generation, as well as the speed of new idea generation (Hornsby, et al. 2002). The generation of new ideas and new product development is likely to lead to a firm's product differentiation, which Covin and Miles perceive to be a critical aspect of sustained competitive advantage (Covin & Miles, 1999).

Corporate entrepreneurship has also been shown to encourage other desirable firm outcomes. In particular, CE has been shown to result in higher levels of job satisfaction and affective commitment, as well as lower levels of turnover intentions (Rutherford & Holt, 2007). Entrepreneurial firms rely heavily upon their human capital in developing a competitive advantage, and the development of strong organizational commitment and satisfaction of that workforce helps such firms sustain that advantage.

Drawing upon the work of Ling et al. (2008), this study postulates that the relationship between managerial factor and the organizational performance may be more accurately explained by considering the mediating effects of corporate entrepreneurship. In short, corporate entrepreneurship helps explain the relationship between the managerial factors and the organizational performance in the state government higher education institutions in Pakistan. With this assertion in mind, the following hypothesis may be set forth in support of the model.

*H2: Corporate Entrepreneurship will mediate the relationship between managerial factors and organizational performance.*



**Figure 3.2: Proposed Hypotheses 2**

## 4. Research Methodology

### 4.1 Measurement of Variables

Measurement instruments and questionnaires to apply them are grounded in the research literature. To increase the validity of the survey measures vital for maximizing the reliability of questions the maximum items per variable are developed (O'Sullivan, Rassel & Berner, 2003).

A 7 point Likert scales were used for all of the questions. Likert scale was used because it is easy to construct, has intuitive appeal, adaptability and usually good reliability (Babbie, 1990; Nunnally, 1978). In a Likert scale, respondents were to choose among the given options. Thus, researcher was able to solicit answers about the given statement through haste of response keys.

The options given in the questionnaires for this study were strongly disagree, disagree, somewhat disagree, somewhat agree, agree and strongly agree. The 7 point scale was used here. Cooper and schindler (2006) state the reliability of the measure increases when the number of scale increases. Besides, the number of scale chosen must approximate the degree of complexity of the construct (Cooper & Schindler, 2006). There is also a possibility that selection of midpoint is a result of satisfying (Krosnick, 1999). Furthermore, Bendigs' (1965) study shows that the reliability of the rating scales is independent of the number of the categories on a given scale". Similarly, Mattell and Jocoby (1971) also found that there is no specific pattern for reliability and validity using different number of alternatives. Hence, the use of 7 point scale is appropriate.

### 4.2 Independent Variables

Determinant factor i.e. managerial factor was presented by Younhee (2007) as antecedents to the entrepreneurship in the public sector organizations. In this study, also, the researcher has adopted these factors as predictors to the perception of public sector corporate entrepreneurship. Younhee (2007) offers evidence of the instrument's reliability and validity, taking great care to establish the factor structure and estimate the internal consistency of the scale.

### 4.3 Managerial factor

Managerial factor can be measured by considering level of perceived autonomy, the degree of perceived participatory decision making, the degree of performance based reward systems, and the level of employees' specialization in a public organization. The following statements can measure the factor as a whole:

**Table 4.1: Managerial Factor Scale**

No.	Items
1	My department encourages the participation of non-executive employees in the decision making process.
2	My department has a formal institutional device for obtaining the opinions of non-executive employees.
3	The employees, below the executive level, participate in formulating new policies/strategies/administrative procedures.

4	The employees, below the executive level, participate in the financial/ budgeting decision making process.
5	The employees are gifted with financial incentives when they perform at a high level.
6	The employees' promotions are based mainly on performance.
7	The employees receive recognition when they perform at a high level.
8	My department offers educational opportunities when employees perform at a high level.
9	The management of my department sets its own strategies objectives without any external approvals.
10	The employees determine resource allocation within my department.
11	The employees have enough authority to determine how to do their job.
12	My department deals with highly specialized tasks.
13	My department has specialized positions which match specialized job requirements.
14	My department has skilled employees with a higher education degree or specialized licenses.

#### 4.4 Dependent Variable Organizational Performance

One outcome will be measured, organizational overall performance: Internal measures of performance have been utilized to gauge a state organization's overall performance (Younhee, 2007). Such measures are perceptual judgments rather than archival data; respondents will be asked to evaluate to evaluate the level of organizational performance based on entrepreneurial activities. Actual performance resulted from entrepreneurial activities is difficult to measure. Here, it is quite ambiguous to extract pure outcomes of entrepreneurial performance. Organizational performance in a public entity is assessed using four items used by Younhee (2007) that ask respondents to evaluate the level of performance. One item is used to assess cost savings from managerial procedures and service delivery aspects. Two items ask about an overall improvement in performance and individual employee's productivity. The last item evaluates the level of customer satisfaction.

**Table 4.2:** Organizational Performance Scale

No.	Items
15	My department reduces procedural and service costs after implementing any entrepreneurial actions.
16	Entrepreneurial activities improve my department's performance.
17	The employee productivity in my department is improved after implementing entrepreneurial behaviors in the past three years.
18	The stakeholders are satisfied with my department's performance.

#### 4.5 Data Collection Procedure

The survey questionnaires were mailed through HEC Quality Enhancement Cell to more than 600 deans of schools/faculties of the state run 74 universities in Pakistan. The mailing package is consisted of a one-page cover letter and the questionnaire. A one page cover letter indicated the

purpose of this study, confidentiality and anonymity of the questionnaire, and the approval by the University Utara Malaysia Review Board and HEC Pakistan for the protection of human subjects to improve response rate (O'Sullivan & Rassel, 1995). The data was collected from the deans and faculty chairpersons of the HEI's in Pakistan. The anarchy spread throughout Pakistan during the collection of data by the researcher. It was due to sever attack of dingy virus, confrontation between political parties and especially the rumors to dissolve higher education commission of Pakistan by the government. The researcher had been abroad since last two years for conducting PhD research therefore, he was not expecting such unstable condition of Pakistan. Instead of these circumstances the executive director of HEC DrSohail Naqvi took a great interest to help the scholar and issued directive to DG quality enhancement cell to contact all public sector higher education institutions throughout the four province heads of HEC for collecting data by a questionnaire. The scholar visited public sector universities in Islamabad and Lahore and met personally with deans and chairpersons of the faculties. Fortunately, the researcher was successful to get the required response from the respondents in the situation like emergency in the country.

For this study the self-administered questionnaire is utilized the closed-ended question format that gives a uniform frame of reference for respondent's views, the semantic-differential approach is employed along a seven-point. Since psychological research indicates that respondents can grasp seven distinctions reliability (Weiberg & Bowen, 1977) while, a seven point-point Likert scale is not overly complicated for capturing of agreement or disagreement. Ahire et al. (1996) observes that a seven-point scale captures more variation than a five-point scale.

Folze (1996) suggests using multiple-format questionnaire set bias to avoid acquiescence. However, this study will utilize a single-scale strategy for all items to reduce the complexity of the survey structures. Respondents can complete the items consistently and easily using a seven-point Likert scale, especially when a self-administered survey questionnaire is used (Younhee, 2007). Weisberg and Brown (1977) and Dillman (1978) recommend that the questions are grouped by topic: managerial, public sector corporate entrepreneurship, organizational performance, and organization demographic factors.

#### 4.6 Sampling

This study will investigate the mediating effect of corporate entrepreneurship (CE) on the relationship between managerial factors, and the organizational performance of the state government higher education institutions in Pakistan. The target populations are the deans of faculty/schools of 74 state run institutions of higher learning. The sampling procedure is important for insuring the validity of the collected data as well as representation of the population in order to draw generalized conclusions on the entire population (Pedhazur & Schmelkin, 1991). This study utilizes a university faculty/school as a sampling frame which is the list of ultimate sampling entities. The department type organization is able to represent the

common characteristics of the population to describe generalized conclusions.

The sampling frame has been obtained from seventy-two state run university departments' official web directories in order to collect the most current information. The population frame is consisted of more than 1000 departments of universities, selected from public sector universities/degree awarding institutes in Pakistan: by the Government of Pakistan (20); by Government of the Punjab (18); by Government of Sindh (12); by Government of Khyber Pakhtoonkhwa (14); by Government of Balochistan (06); by Government of Azad Jammu & Kashmir (02) and total no is (74).

## 5. Results & Interpretation

### 5.1 Descriptive Statistics

**Table 5.1:** Descriptive Statistics

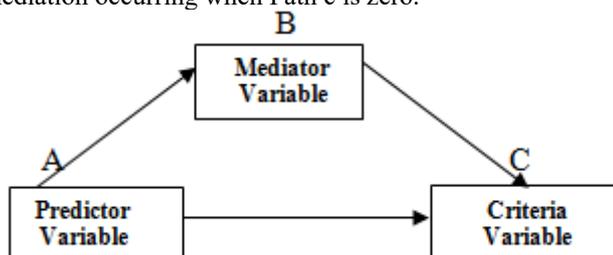
Constructs	N	Minimum	Maximum	Mean	Std. D.
Managerial Factors	225	1.00	6.81	4.05	.90

Table 5.1 presents the means and standard deviations (SD) for the variables. Based on the highest scale value of 6.81, the mean for managerial factor was 4.05 (SD = 0.90).

### 5.2 Test of the Hypotheses

#### 5.2.1 Mediator Regression Analysis

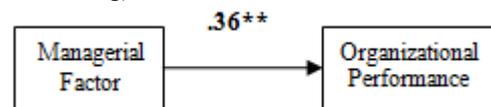
This section addressed the stated hypotheses. Multiple regressions were performed to assess the direct and indirect relationships within the proposed model and the stated hypotheses. The scale was aggregated to find an overall score for each of variable under investigation, including managerial factor, corporate entrepreneurship, and organizational performance of the state government higher education institutions in Pakistan. Testing of the stated hypotheses was done so in accordance with Baron and Kenny's (1986) description of mediation (see Figure 5.1 for an illustration of the paths): A variable functions as a mediator when it meets the following conditions: (a) variations in levels of the independent variable significantly account for variations in the presumed medication (i.e., Path a), (b) variations in the mediator significantly account for variations in the dependent variable (i.e., Path b), and (c) when Paths a and b are controlled, a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation occurring when Path c is zero.



**Figure 5.1**

*Mediation Paths as described by Baron and Kenny (1986)*  
 Hypothesis 1: Managerial factor will have a positive relationship with organizational performance.

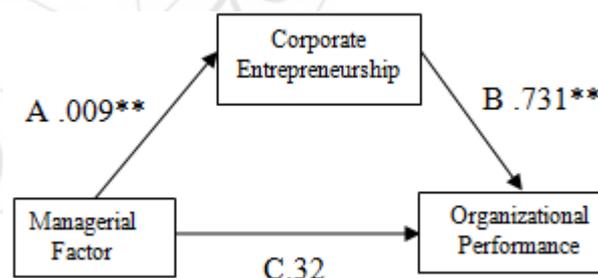
In order to assess this relationship, a regression analysis was conducted and provided an  $r^2 = .48$ ,  $p < .01$ . The direct relationship of managerial factor and organizational performance was found to be significant ( $\beta = .36^{**}$ ,  $t = 4.45$ ,  $p < .01$ ). Hypothesis 2 was therefore accepted. Figure 5.1 depicts the direct relationship (note: bold represents a significant finding).



**Figure 5.2:** The Direct Relationship Proposed between Managerial Factor and Organizational Performance

Hypothesis 2: Corporate Entrepreneurship will mediate the relationship between managerial factor and organizational performance.

In order to assess this hypothesis Baron and Kenny's (1986) criteria for mediation was followed. Path a (managerial factor to corporate entrepreneurship) was assessed through a regression analysis and revealed an  $r^2 = .53$ ,  $p < .01$ . The first requirement, a significant Path was supported ( $\beta = .009^{**}$ ,  $t = 1.15$ ,  $p < .01$ ). Next, the second requirement for mediation, Path b (corporate entrepreneurship to organizational performance) was assessed through a regression analysis and revealed a significant relationship ( $\beta = .73$ ,  $t = 15.99$ ,  $p < .01$ ). Finally, the third criterion for mediation, Path c (when Paths a and b are controlled for, a previously significant Path c will be non-significant) was assessed through a regression analysis and revealed a non-significant Path c ( $\beta = .32$ ,  $t = 4.44$ , n.s.). It was concluded that Hypothesis was accepted as the data supported the notion that corporate entrepreneurship mediates the relationship between managerial factor and organizational performance. Figure 5.3 depicts the significant indirect relationship (note: bold represents a significant finding), so mediation is partial.



**Figure 5.3:** The Proposed Mediation of Corporate Entrepreneurship between Managerial Factor and Organizational Performance

## 6. Discussion and Recommendations

This study answers the following research question:

- 1) Whether each of the determinant factor managerial factors is the predictors of the performance in the state government higher education institutions in Pakistan?
- 2) Whether the mediation of corporate entrepreneurship (CE) is accrued full or partial between the relationship of managerial and the organizational performance?

The research question is about managerial factor and its relationship with organizational performance whether

predictive or correlative. During Pearson correlation test the data resulted that the managerial factor is correlated with organizational performance ( $r = .651^{**}$ ). When the regression analysis was run it was found that the direct relationship is significant between managerial factor and organizational performance ( $\beta = .36^{**}$ ) in the state government higher education institutions in Pakistan. The one of the main contribution of the researcher is to test the mediation of corporate entrepreneurship in the relationship of managerial factor and organizational performance. Here, the strength of the relationship between managerial factor (path a) is ( $\beta = .009^{**}$ ) also between corporate entrepreneurship and organizational performance (path b) is ( $\beta = .731^{**}$ ) while now path c is insignificant that verify the mediation between managerial factor and organizational performance.

In Pakistan the institutions of higher leanings 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. Being the autonomous organizations the HEIs are independent to take actions and decisions to bring forth their vision. But why in more than 60 years these universities cannot get the required level of performance. As discussed above due to non-proper structures that include hierarchy, no proper documentation and no proper implementation of rules and regulations formalization the autonomy is not fruitful as it should be. The data has supported the mediation of corporate entrepreneurship between the relationship of managerial factors and organizational performance of the state government higher education institutions in Pakistan. Here, the private sector values can be applied to the public sector organizations. Joni, Bell and Mason (1997) Kanter (1984), and Hisrich and Peter (1986) argue for the vitality of role and importance of strong management. The entrepreneurial leaders are the main characters for managing entrepreneurial organizations therefore they are well documented in research on corporate entrepreneurship. Several researchers e.g. (Shatzer & Schwartz, 1991; Sykes, 1986; Kuratko, Montangno & Hornsby 1990; Sykes & Block, 1989) have the same opinion about the entrepreneurial leaders that they are risk takers, self-motivated, creative, and energetic. Earlier their identification, proper placement at right location in an organization, ensuring their trainings are purposed by the researchers e.g. (Fry, 1987; Kanter, 1985; Shatzer & Schwartz, 1991; Souder, 1981).

The respondents of this research are deans and faculty chairpersons of HEIs in Pakistan, where the researcher can deal them as middle managers. Bower (1970) was among the very first scholars to draw attention to the importance of middle managers as agents of change in contemporary organizations. This situation has changed to some extent as companies sought to revitalize their operations as a means of creating strategic change. Several authors e.g. (Drucker, 1985; Kanter, 1983, Peters & Waterman, 1982; Burgelman & Sayles, 1986; Pinchott, 1985) have discussed different aspects of middle managers' contributions to entrepreneurship. Other researchers (e.g., Schuler, 1986; Woolridge & Floyd, 1990) also examine the contributions of middle managers to a company's strategy, a variable that is

intimately connected to corporate entrepreneurship (Guth & Ginsberg, 1990; Zahra, 1991).

Quinn (1985) is among the first to recognize the valuable contributions and important roles of middle managers in the innovation process in an established company. Noting senior managers' isolation from actual day-to-day activities, Quinn highlights the crucial importance of the roles middle managers can play in fostering communication about the company's mission, goals, and priorities. Middle managers interact with diverse employees, which would allow them to use formal and informal approaches to encourage innovation and calculated risk taking. Middle managers also communicate their ideas for innovations to upper management, thereby creating an opportunity where these ideas are evaluated and considered within the context of the firm's overall strategic priorities (Burgelman, 1983a,b).

Other writers e.g. (Peters & Waterman, 1982; Pinchott, 1985) have also observed the important roles middle managers play in informally encouraging employees to innovate and take risks. These middle managers provide political and organizational support for „skunkwork“ activities that result in innovative ventures. Kanter (1985, 1988) and Quinn (1985) also note the importance of middle managers in promoting autonomous or informal corporate entrepreneurial activities. Middle managers can do this by providing rewards (mostly intrinsic) that allow employees to experiment with, and explore the feasibility of, innovative ideas. Middle managers can also use different approaches to make the organizational structure less resistant to change thereby allowing corporate entrepreneurial activities to flourish.

As noted earlier, some researchers have sought to examine the roles middle managers play in their company's strategic process. In one such study, Floyd and Woolridge (1992) argue that middle managers frequently play pivotal roles in championing strategic alternatives and making them accessible to senior executives. Middle managers synthesize and integrate information, thereby crystallizing the strategic issues facing the company and setting the stage for strategic change; facilitating adaptability by altering the formal structure; and implementing the formal strategy and providing feedback. This feedback can spur future strategic change and organizational renewal efforts. When Floyd and Woolridge results are connected to the early findings of Burgelman and Sayles (1986), it becomes clearer that middle managers play a key role in shaping their companies' strategic agenda by influencing the types and intensity of corporate entrepreneurial activities. So, the deans as middle managers at higher education institutions in Pakistan can play an important role to foster entrepreneurship at their departments to enhance the performance.

The human mind and body respond positively to encouragement and motivation. These stimulations can have different manifestations. They can be recognition, promotion, reward or a better pay package. The Higher Education Commission of Pakistan ever since its inception has given greater priority to the recommendations of the Task Force and Steering Committee on giving incentives and encouragement to faculty. Distinguished National

Professorship is a scheme which acknowledges the services rendered by outstanding senior professors and scientists in universities and R&D organizations. These National Professors are expected to supervise research, deliver lectures, conduct workshops and training courses and write research articles (Jahangir, 2008).

The Best Teacher Award is another step to encourage them in their profession. Under this scheme the HEC invites nominations from all public sector Universities and the Commission's National Committee decides the name of the awardee that gets a certificate and Rs. 100,000/- cash prize (Jahangir, 2008)

The President's Award in the three different categories is conferred by the Government of Pakistan to outstanding University teachers for their extra ordinary contribution to their field. Upon the recommendations of an expert committee of the HEC, they are (Jahangir, 2008):

- a. Izzaz-e-Kamal:
- b. Izzaz-e-Fazeelat: and
- c. Izzaz-e-Sabqat.

In addition to the above mentioned, a number of Civil Awards are also available to those Universities teachers who qualify. They include (Jahangir, 2008):

- a. Nishan-e-Imtiaz:
- b. Hilal-e-Imtiaz:
- c. Sitara-e-Imtiaz:
- d. Tamgha-e-Imtiaz:
- e. Pride of performance.

Towards the end of 2006 the Prime Minister of Pakistan announced one step promotion for all university faculties. (For those who do not hold a PhD vertical movement is only possible to Assistant Professor Level. Beyond that a PhD with research background is essential). This has been done to acknowledge the importance of this profession and to attract better candidates to this profession.

### 6.1 Limitations and Associated Opportunities for Future Research

The limitation is the dataset generated by the survey may not be an accurate indication of public entrepreneurial practices at the state government higher education institutions in Pakistan and may be biased on certain aspects of entrepreneurial activities. For example, though respondents indicate that organizational performance is improved as a result of entrepreneurial practices; this cannot be proved without reliable, factual evidence on performance.

The future research should be committed to developing a more workable set of measurements in the context of the public sector. In addition, more secondary data (e.g., measuring organizational performance) in the context of financial measurement is needed in the data frame. These efforts will refine a more precise relationship in the public entrepreneurship model.

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