

## **Top Leaders Attributes in Malaysian Higher Education Institutions: Effect on University Innovation**

Mafuzah Mohamad, Salina Daud  
*College of Business Management and Accounting,  
Universiti Tenaga Nasional,  
Sultan Haji Ahmad Shah Campus,  
Muadzam Shah, Pahang,  
Malaysia*  
[mafuzah@uniten.edu.my](mailto:mafuzah@uniten.edu.my) [salina@uniten.edu.my](mailto:salina@uniten.edu.my)

Mohd Zainal Munshid Harun  
*School of Business and Management,  
University College of Technology Sarawak,  
Sibu, Sarawak,  
Malaysia*  
[zainal@ucts.edu.my](mailto:zainal@ucts.edu.my)

### **Abstract**

*Transforming Malaysian Higher Education Institutions to an exceptional level has become one of the main challenges in pursuing strategic vision and the ability to strengthen our Higher Education Institutions (HEIs) that could become a medium to the country economic development as well as facing global intense competition. Specifically, the role of HEIs leader is needed to transform their institution to a new paradigm. Thus HEIs leader have to furnish and equip themselves with a high leadership attributes. The main objective of this study is to investigate top leader attributes in Malaysian HEIs and its effect toward university innovation. The questionnaires were distributed to managers from various faculties and departments' of public HEIs in Klang Valley. The findings show, leading changes attributes of leaders is the most significantly related and asserted as the most difficult leadership challenges faced by the leader in enhancing and encouraging the spirit of innovation in HEIs.*

**Keywords:** business acumen, traits, leadership attributes, building coalition

### **1. Introduction**

Malaysia's endeavour to achieve the status of developed nation by the year 2020 has put itself in an exceptional challenge. One of the main challenges in pursuing this strategic vision is the ability to strengthen our Higher Education Institutions (HEIs) that could become a medium to the country economic development as well as facing global intense competition. In fact, the role of HEIs leader is needed to transform their institution to a new paradigm. Furthermore, quality and credibility of HEIs leader is very significant in ensuring the survival of the institution and eventually meeting government's aspiration. Therefore, one of the criteria in selecting potential leaders to manage HEIs is an individual with high business attributes. These criteria is critically important in developing an appropriate strategy to secure financial resource that can be utilized to fund various program or project that benefited the university as well as to the government.

HEIs are currently facing unique and continual environmental challenges, as they endeavour in meeting up demands from various industries. Therefore, effective leadership is required and play a crucial role in leading HEIs through changes as it involves ambiguity, uncertainty and risks. Indeed, effective leaders considered as critical component for an organization success (Voon, Lo, Ngui, & Ayob, 2011). Top leaders in HEIs are recognized as influential since most of the decisions are made by them and without them, organizations decline, lost track and eventually suffer the consequences (Kotler, 2000). Until now, the emergence of approaches that link leadership development to various outcomes is very limited.

Innovation is an essential corporate strategy (Wu & Lin, 2011) and plays an important role for an organization to survive in competitive advantage and rapid changing environment (Damanpour, 1991; Hurley & Hult, 1998 ; Madhavan & Grover, 1998 ; Schumpeter, 1934; Subramaniam & Youndt, 2005; Tushman, Anderson, & O'Reilly, 1997). Hence, nurturing innovation becomes the main challenge for business since innovative organizations are more successful and perform better (Daft, 2004; Farina & Kelly, 1983; Krause, 2004; Montes, Moreno, & Fernandez, 2004). Lack of innovation, will resulted an organization to collapse very quickly (Daft, 2004; Krause, 2004). Company's innovation happen when knowledge resources is fully utilized (Subramaniam & Youndt, 2005).

Therefore, this study focuses to measure three objectives namely :1) to identify the importance of top leaders' attributes in Malaysian HEIs; 2) to examine the importance of business acumen traits among top leaders in Malaysian HEIs; and 3) to investigate the influence of top leaders' attributes in Malaysian HEIs towards university innovation.

## **2. Literature Review**

### **2.1 Leadership Attributes**

Leadership is *"the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives"* (Yukl, 2002, p. 7). Leadership Competency is describes as *"the attributes of high performing leaders needed to produce results"* (Eyde, Gregory, Muldrow, & Mergen, 1999, p. v). Previously, many author focus on leadership (Bass, 1990; Bennis, 1959; Stogdill, 1974; Yukl, 2002) as well as on competency (Boyatzis, 1982; McClelland, 1973; McLagan, 1983; McLagan, 1989; McLagan, 1996; Rothwell & Lindholm, 1999; Spencer & Spencer, 1993; White, 1959).

Quality and effective leadership attributes is important criteria that can influence change. Quality leadership is visualized through effective results while effective leadership is segregated in group or individual traits. Group traits include teamwork, similar objective, dissimilarity, employee dissemination and a knowledge environment while individual traits include independent knowledge, honesty, dedication, compassion of others, and proficiency (Astin & Astin, 2000). Andrews (1967) has highlighted the significance of effective leadership in bringing out innovation while Andrews and Farris (1967) pointed out several leader attributes that might be related to innovation including practical skills, important assessment, inspiring others, and independency. On the other hand, Zaccaro (2001) (2002) Zaccaro, Foti, and Kenny (1991) and Zaccaro, Gilbert, Thor, and Mumford (1991) indicated that effective leadership must possess social appraisal skills or social intelligence.

The Leadership Competency Model (Eyde et al., 1999) includes both group and individual attributes of leaders. This model contains 27 leaders' attributes that was clustered into five dimensions; leading change, leading people, results driven, business acumen and building coalitions. This model was widely used as a research-based model and was applicable to a variety of organizational settings and has been tested in

different culture context (Wang, 2006). Eyde et al., (1999, p. v) stressed that, “*leadership competencies, attributes, and behaviours are more important than managerial competencies.*”

**Table 1: The leadership competencies model**

<b>Five Dimension</b>	<b>27 Leaders' Attributes</b>
Leading Change	Continual Learning, Creativity and Innovation, Resilience, Service Motivation, Strategic Thinking, Vision
Leading People	Conflict Management, Leveraging Diversity, Integrity/Honesty, Team Building
Results Driven	Accountability, Customer Service, Decisiveness, Entrepreneurship, Problem Solving, Technical Credibility
Business Acumen	Financial Management, Human Resources Management, Technology Management
Building Coalitions/ Communication	Influencing/Negotiating, Interpersonal Skills, Oral Communication, Partnering, Political Savvy, Written Communication

Source: Eyde et al. (1999)

### 2.1.1 Leading Change

Most of us are accustomed by our tradition and reluctant to try something new, hence, it is a challenge for a leader to convince others from doing things in usual ways. Leader of change then always become a battle between individual who are seeking change and majorities who are happy with what they always practiced (O'Toole, 1995). In addition, O'Toole (1995) also pointed two reasons why people resist change, first it is attacking custom when we are trying to change human habit and secondly attacking comfort when promoting change, you are attacking the group's comfort and on the other hand, Kotter (1995) noted that successful change begins when an organization focuses on competitive advantage, market position, technological trend and financial performance

Yukl (2002) and Kotter (1995) contended that one of the most important and difficult leadership responsibilities is leading change and challenges faced by the leader is to learn about the business, the nature of change and the task of managing the changes (Nadler & Tushman, 1994). Hence, company normally failed when they underestimate the importance of change (Kotter, 1995)

Manager and employee view change differently where for top leader, change is an avenue in growing business by meeting up operation with company mission, face all obstacles, risk and work as career enhancement, while for employee change is troublesome, invasive and disturbing and therefore not welcome and to overcome this problem, leader should be more empathy, take charge and provide proper guidance (Strebel, 1996).

Efficient leader must be able to come out with initiatives and ensure that the changes penetrate into three levels of the organization i.e. the individuals, the teams and the organization's culture with the development processes centered on emotional and intellectual learning (Daniel Goleman, Boyatzio, & Mckee, 2002).

### 2.1.2 Leading People

The function of a leader is as a sustaining player who's eventually, is to motivate and assist others effort (Mumford, Connelly, & Gaddis, 2003). Leading people require leader to possess technical, financial, or operational skills (Wu & Lin, 2011). Sessa, (1998) highlighted two factors that have led to the positive support in the leadership of creative people namely creativity and clear support and encouragement without which it may reduce opportunities for innovation and generation of a new idea (Andrews, 1967; Scott, 1995).

Anderson & West (1998) Bain, Mann, & Pinola-Merlo (2001), Oldham & Cummings (1996), Sosik, Kahai, and Avolio (1998, 1999) have stressed the need for leaders to support creative efforts. In a similar lines Enson, Cottam, and Band (2001) indicated that administrative support, good team work, empowerment, capital and obstacle is connected and contributed to innovation. Cardinal (2001) and Damanpour (1991) on the other hand proposed that leaders is to invent structures that will contributed to creative activities to flourish while Oldham & Cummings, (1996), suggested four key dimensions important in leading creative people i.e. academic encouragement, participation, encouragement and autonomy. Andrews and Farris (1967) proposed that the best predictor of innovation on the part of group members is the leader's technical skills.

### 2.1.3 Business Acumen

*“Business acumen is keenness and quickness in understanding and dealing with a business situation in a manner that is likely to lead to a good outcome”* (Reilly & Reilly, 2009, p. 1) and surprisingly most of organizations today are lacking of this significant elements. Business acumen from manager point of view is an ability to read and understand numbers or financial literacy and able to react effectively while business analyst defined business acumen as the ability to understand thoroughly the financial status of an organization and to provide strategic measures to overcome it (Rezak, 2012). Business acumen is a knowledge on how organization gain money, concerned with the interpretation of the financial statement, understands best possible approaches, resolutions and measures and it effect toward an organizations. (Green, 2010).

Business acumen has become an important element in achieving a successful for organization's strategic objectives. Strengthening business acumen requires leaders to understand and focus in four critical areas for instance understanding one's thought processes, developing business knowledge, effective use of management processes and management and, leadership skills (Reilly & Reilly, 2009).

In a similar vein, leaders that engaged themselves in developing business acumen will be able to provide a clear vision and as far as possible to closed any gaps that refrain the success of an organizations. A good leader therefore should play their role and value the contribution of their subordinates (Green, 2010). Successful leadership in HEIs requires both business and learning acumen as well as strong leadership skills. Business acumen is a must since a successful learning leader must be a business person first and a learning professional second. Therefore such approaches should be emerged and provide the basis to increase business acumen as part of leadership development.

Rezak (2012) contended that a leaders with business acumen will closed all internal barrier, settle grievances, possessed good communication skill and able to utilized the employee potential for the benefit of the company. Thus, in developing business acumen, which is best developed experientially, organization is supposed to guide employee and direct them to achieve company vision in harmonious environment without any barriers which will reduce waste and promoting innovation. In turn, employees will give their full commitment since their role is well understood and valued by the management. They will then think like business owner think (Green, 2010).

### 2.1.4 Results Driven

A high performance leaders are supposed to perform beyond an organization, community and deliver result (Schroeder, Van de Ven, Scudder, & Polley, 1989). Leaders are results driven, and they achieve outstanding business results since they experience problems. A knowledgeable leader with sales, marketing, finance, manufacturing skill will produce good outcomes and with continuous changes, leaders are supposed to adjust well to adapt with the changes (Conner, 2000).

Bennis and Nanus (1985, p. 29) revealed that “*leaders are the most results-oriented individuals in the world*”. Result driven program start off with identifying the most crucial performance improvement needed, introduce innovation in management, venture on specific outcome, matches it with resources, tool and action plan to achieve desired outcome (Schaffer & Thomson, 2000).

### 2.1.5 Building Coalitions

Stevenson, Pearce, and Porter (1985, p. 261) defined coalition as “*an interacting group of individuals, deliberately constructed, independent of the formal structure, lacking its own internal formal structure, consisting of mutually perceived membership, issue oriented, focused on a goal or goals external to the coalition, and requiring concerted member action.*”

Coalitions are forms of inter organizational relations (Whetten, 1981) and group of organization leading toward common goal (Aldrich & Marsden, 1988; Galaskiewicz, 1979; Grusky, 1992; Marsden, 1992), and exchange theory (Levine & White, 1961) and interestingly, studies on these items increased tremendously (Chavis, Speer, Resnick, & Zippay, 1993; Francisco, Paine, & Fawcett, 1993; Lasker, 1997; Mattessich & Monsey, 1992; Sink, 1987).

Coalitions are relationship building, correlated with two process skills mainly to set up a good relationship between leader and members and initiating the system for interaction and generate a formation that facilitated and promoted involvement (Mizrahi & Rosenthal, 2001) with active support by the leader. Kotter (1995) Mizrahi and Rosenthal (2001) indicated that skilled leadership was frequently identified as feature for the success of coalition. Even though coalitions have common characteristics with collaborations, the collaboration commonly refer to specific task, centred on synchronization and dispute settlement, obligatory in nature, have less team players, and are temporary (Green, 2010).

Scholars (Allen, Madison, Porter, Renwick, & Mayes, 1979; Fairholm, 1993) initiated and valued occurrence of coalitions as instrument of political influence in organizations and knowledgeable leader were responsive on building coalitions by few methods namely by convincing peers, subordinate, superior or stranger to work together in achieving the desired goal (Bolman & Deal, 1991; DeLuca, 1999). The implication of coalition on leaders is that they must create awareness among member on their common interest and organize their interactions and related activities (Ammetera, Douglasb, Gardner, Hochwarterb, & Ferrisb, 2002). Guiding collations with successful communication and removal obstacles are factors that empower other to make action (Kotter, 1995).

## 2.2 Innovation

The definition of innovation differs from many studies (Chen & Chen, 2007; Wolfe, 1994). Subramaniam and Youndt (2005) and Van de Ven (1986) indicated that innovation is about discover and make an effort to create new products, services or work practices. Many authors (Afuah, 2003; Bantel & Jackson, 1998; Damanpour, 1996; Kimberly, 1981; O’Sullivan, 2000; Ordaz, Lara, & Cabrera, 2005; Roberts,

1988; Tushman & Nadler, 1986; Yen & Chang, 2005) defined innovation as the implementation and adoption of a new idea by organization, modify them into practical products or procedures (Robbins, 2005) or work practices (Ichniowski C, Shaw K, & G., 1997 ; Subramaniam & Youndt, 2005) or proposing an important changes in markets or society by initiating something valuable (Mang, 2000) or attainment, distribution and, use of existing or new knowledge (Damanpour, 1991; Moorman & Miner, 1998).

In a similar vein, innovation can be defined in terms of three aspects (Ordaz et al., 2005): a new product to a business unit (Damanpour, 1996; Tushman & Nadler, 1986); a new process (O'Sullivan, 2000; Schroeder et al., 1989; Zmud, 1982); or an attribute of organization (Bantel & Jackson, 1998; Kimberly, 1981).

Historically, numerous research on innovation in organizations had focuses on number of substances such as on determinant factors (Germain, 1996 ; Kimberly & Evanisko, 1981; Nystrom, Ramamurthy, & Wilson, 2002), consequences (Rogers, 1995; Subramanian & Nilakanta, 1996), strategy (Hitt, Hoskisson, Johnson, & Moesel, 1996; Parnell, Lester, & Menefee, 2000), structure (Burns & Stalker, 1961; Damanpour, 1998, 1991; Pierce & Delbecq, 1977), climate (Amabile & Gyskiewicz, 1989; Isaksen, Laver, Ekvall, & Britz, 2001), distribution of practice (Abrahamson, 1991; Rodgers & Adhikurya, 1979), team communications (King & Anderson, 1990; Mumford, Feldman, Hein, & Nago, 2001) and individual performance capabilities (Mumford, Marks, Connelly, Zaccaro, & Johnson, 1998; Runco & Sakamoto, 1999).

This study however defined innovation as a process that not only provides new and tangible products but also provides intangible new ideas. Among innovation dimensions that was used in the study are: number of new ideas, number of new products, product design and time development, new market and new customers, innovative culture, rate of innovative taught, number of patent, number of copyright and etc. (Chen & Chen, 2007 ). Since organization is best place for implementation of innovation, innovation cannot be studied independently from organization that generates or adopts it (Kimberly, 1986).

### **2.3 University And Innovation**

Malaysia has declared their intentions to prepare this country as regional hub of education (Mok, 2010). This is envisaged in the National Higher Education Strategic Plan 2020, when government outlines seven major reform objectives, namely widening access and enhancing quality; improving the quality of teaching and learning; enhancing research and innovation; strengthening HEIs; intensifying internationalization; enculturation of lifelong learning; and finally, reinforcing the Ministry of Higher Education's (MOHE) delivery system (Sirat, 2009).

To guarantee a comprehensive improvement, the Malaysian Government is constantly plan and implements programs and activities focused on knowledge, creativity and innovation. This is evident from the 2013 Budget, where the Ministry of Science Technology and Innovation with the collaboration of Agensi Inovasi Malaysia and non-governmental organisations (NGOs) will undertake initiatives in achieving government inspirations (Razak, 2013).

In a pursuit of becoming a fully develop nation, Malaysia has transformed to the knowledge-based economy which attributed to the increasing importance of intellectual capital as it main resource (Moon & Kym, 2006; Sonnier, Carson, & Carson, 2007; Tan, Plowman, & Hancock, 2007). Intellectual capital is important in the new economy for two reasons: first, universities' main contribution and output are subtle, and the outcome on the universities' business progression is quite small (Canibano & Sanchez, 2004); secondly, universities are supposed to be more transparent and to equip their stakeholders namely students, public

authorities that fund universities, labour markets, etc. with sufficient information (European & Commission, 2003).

This transformation start off with private organizations and expanding publicly which to include universities (Sanchez & Elena, 2006). Since the demand to universities is high, it is encouraged to increase level of quality in education and research (Wua, Chen, & Chen, 2010) and even interact with a variety of other knowledge producers (Gibbons, 1998).

In supporting the national innovation systems, it is very crucial to train professionals, high-level specialists, scientists, and researchers in generating new knowledge (Bank, 2002). University is supposed to produce well-qualified graduates which is highly demanded by market; produce reputable research issued in top scientific journals; and contribute to technical innovations through patents and licenses (Liu, Wang, & Cheng, 2011). It is highly believed that universities are essential to the growth of economic since research influence innovation, and good universities can attract future talent, build strong nation, and coordinate the country with the global knowledge economy (Salmi, 2009 ) hence, contemporary universities can geared innovation and economic development and eradicate social and environmental problems (Marginson, 2011).

### 3. Methodology

This study applied a quantitative research design and employed a cross sectional methodology. The respondents in this study were managers from various faculties and departments of selected public HEIs in Klang Valley. Approximately 500 questionnaires were distributed to managers who are involved directly in decision making at tactical and strategic planning level. A survey instrument consisted of three main sections: Section A was on leaders' attributes, Section B on innovation, and Section C was on the respondents' profile. It was designed using a Likert scale from "1- *Strongly disagrees*" to "5 - *Strongly agree*". The dimensions of leaders attributes were adopted from The Leadership Competency Model that consist of five dimensions: leading change, leading people, business acumen, results driven and building coalitions (Eyde et al., 1999). While an innovation dimensions comprise number of new ideas, number of new products, product design and time development, new market and new customers, innovative culture, rate of innovative taught, number of patent and number of copyright (Chen & Chen, 2007). All dimensions and items were checked on the reliability and validity criterion and all met the validity and reliability requirements. A correlation and regression analysis was used in data interpretation.

### 4. Results

#### *Demographic profile*

Table 2 presents respondents profile for the study. The response rate was 49% where 224 out of 500 completed questionnaires were received for this study. The portion of male and female respondents is equal. Majority of them are in the age category of 41-50 years old (46.3%). Most of the respondents (57%) participating in this survey were Head of unit or supervisors and 66% of them is holding DBA or PhD qualification. One third of the respondents (33.2%) have 11-15 years' work experience and almost half of them have worked between 1-5 years in the present position.

**Table 2: Respondents profile**

Characteristics	Categories	Frequency (%)
Gender	Male	122 (50.0)
	Female	122 (50.0)
Age	20-30 year	26 (10.7)
	31-40 year	76 (31.1)
	41-50 year	113 (46.3)
	above 50 year	29 (11.9)
Position	Vice Chancellor	1 (0.4)
	Deputy Vice Chancellor	1 (0.4)
	Dean/Deputy Dean	22 (9.0)
	Director	11 (4.5)
	Head of Department	69 (28.3)
	Others	140 (57.4)
Have worked for Education level	DBA/PhD	162 (66.4)
	Master	71 (29.5)
	Professional body	6 (2.5)
	Others	4 (1.6)
Years of services	1-5 years	48 (19.7)
	6-10 years	72 (29.5)
	11-15 years	81 (33.2)
	16-20 years	43 (17.6)
No. of years' service in present position	1-5 years	120 (49.2)
	6-10 years	76 (31.1)
	11-15 years	45 (18.4)
	16-20 years	3 (1.2)

**Reliability analysis**

Table 3 presents the Cronbach alpha coefficient for each variable. The reliability of the data was verified using Cronbach alpha, where the closer the Cronbach alpha is to 1, the higher the internal consistency reliability (Sekaran, 2000). The alpha coefficients for this study are all above 0.70 and were concluded as being reliable (Hair et al., 2006b; Nunnally, 1978).

**Table 3: Overall internal reliability**

Dimensions	Cronbach's alpha	No. of item
Leading Change	0.940	18
Leading People	0.948	14
Results Driven	0.957	23
Business Acumen	0.953	22
Building Coalitions/Communication	0.961	21
Innovation	0.848	17

**Descriptive statistics and coefficient correlations among variables**

Table 4 presents means and coefficient correlation among variables in the study. Mean value for leading change is the highest compared to the other leader’s attributes. Respondents perceived that leaders at public HEIs need to possess leading change attributes followed with building coalitions/communication, leading people, results driven and business acumen. Business acumen attributes is the least importance attributes that should be possessed by top leaders at public HEIs. As shown in Table 3 also, the findings indicate that all leadership attributes are significantly correlated with innovation, where the correlation coefficients value are between  $r = 0.370$  and  $r = 0.485$ ; at  $p < 0.01$ . The highest correlated attribute are leading change attribute while the lowest r-value is result driven attribute.

**Table 4: Mean values and correlations coefficients among variables**

	Mean	1	2	3	4	5	6
Leading Change	4.184	1					
Leading People	4.165	.796**	1				
Results Driven	4.134	.738**	.733**	1			
Business Acumen	4.128	.710**	.722**	.781**	1		
Building Coalitions/Communication	4.167	.787**	.810**	.680**	.659**	1	
Innovation	4.143	.485**	.465**	.370**	.472**	.458**	1

\*\* Correlation is significant at the 0.01 level (2-tailed)

**5. Discussion and Conclusions**

The above analysis is use to answer research objectives of the study. Mean value shows the importance of leader’s attributes among leaders at public HEIs. All mean values are above average indicating that leaders at public HEIs need to possess all these attributes. The most importance attribute that should be possessed by leaders at public HEIs is leading change while the least importance attribute is business acumen. Leaders at public HEIs need to be flexible and lead changes towards academic excellence in order to be at par with top rank HEIs. Business acumen attribute is perceived as the least important attribute to leaders at public HEIs mainly because they are public university funded by government. Based on the correlation analysis, results show a significant relationship between leadership attributes and innovation that support many of the previous studies that have established the relationship between leadership attributes and innovation (Conner, 2000; Mizrahi & Rosenthal, 2001; Mumford et al., 2003; O’Toole, 1995; Rezak, 2012).

As the need to transform Malaysia HEIs, the question of strengthening the role of HEIs leaders becomes important. This study contributes to this issue by emphasizing several important aspects. First, results highlight the importance of leaders to lead the changes as one of the factors closely related to innovation. Leading change attributes of leaders investigated in the study is significantly related and asserted the most difficult leadership challenges faced by the leader in enhancing and encouraging the spirit of innovation in HEIs. Second, a similar pattern of findings is discover, concerning the relationship between leader’s business acumen attribute and innovation. Results also highlight the importance of leaders to outfit with business acumen attributes that intimately related to innovation. Interestingly, this study place an interest to the need of the leaders to build coalitions within the institution specifically by convincing peers, subordinate or superior to work together, ultimately enhancing organizational innovativeness. Finally, leading people require leader to possess technical, financial, or operational skills that support innovativeness. In other

word, leaders need to invent constitution that will contribute to creative activities in order to prosper the institutions. In conclusion, the study showed how leadership attributes provides valuable insights into the challenges faced by leaders in implementing change especially in enhancing innovativeness within HEIs.

## 6. Direction For Future Research

The present study focuses on leaders attributes in public HEIs and demonstrates its relations with innovation. Thus, its opens a number of avenues for related research. More research is needed to assess the robustness of other variables that affect innovation and explore further dynamics leaders attributes in HEIs. Others variables that stated in leadership competency model (Eyde et al., 1999) might contribute to a more significant results. The data for this study was gathered through self-report, i.e. by asking each respondent (leader) to describe his or her own perception toward dimensions being research. An alternative, and arguably better but more difficult, approach is to ask each leader or manager's peer and subordinates towards all the dimensions that might produce difference results. A comparison study of leaders' attributes at public and private HEIs shall also be conducted.

## 7. References

- [1] Abrahamson, E. (1991). Managerial fads and fashions: the diffusion and rejection of innovations. *Academy of Management Review*, 16, 586–612.
- [2] Afuah, A. (2003). *Innovation Management: Strategies, Implementation, and Profits*. New York: Oxford University Press.,  
Aldrich, H. E., & Marsden, P. V. (1988). *Environments and organizations*. In N. J. Smelser (Ed.), *Handbook of sociology*: Newbury Park, CA: Sage Publications.
- [3] Allen, R. W., Madison, D. L., Porter, L. W., Renwick, P. A., & Mayes, B. T. (1979). Organizational politics: tactics and characteristics of its actors. *California Management Review*, 22, 77–83.
- [4] Amabile, T. M., & Gryskiewicz, N. D. (1989). The creative environment scales: work environment inventory. *Creativity Research Journal*, 2, 231–253.
- [5] Ammetera, A. P., Douglasb, C., Gardner, W. L., Hochwarterb, W. A., & Ferrisb, G. R. (2002). Toward a political theory of leadership *The Leadership Quarterly* 13 751–796.
- [6] Anderson, N. R., & West, M. D. (1998). Measuring climate for work group innovation: development and validation of the team climate inventory. *Journal of Organizational Behavior*, 19, 235–258.
- [7] Andrews, F. M. (1967). Creative ability, the laboratory environment, and scientific performance. *IEEE Transactions on Engineering Management*, 14, 76–83.
- [8] Andrews, F. M., & Farris, G. F. (1967). Supervisory practices and innovation in scientific teams. *Personnel Psychology*, 20 497–515.
- [9] Astin, A. W., & Astin, H. S. (2000). *Leadership Reconsidered: Engaging Higher Education in Social Change*: W. K. Kellogg Foundation, One Michigan Avenue East, Battle Creek, MI 49017-4058.
- [10] Bain, P. G., Mann, C., & Pirola-Merlo, A. (2001). The innovation imperative: the relationships between teamclimate, innovation, and performance in research and development teams. *Small Group Research*, 32, 55–73.
- [11] Bank, W. (2002). Constructing knowledge societies: New challenges for tertiary education. *Washington, DC: World Bankm* Retrieved from <http://go.worldbank.org/N2QADMBN1Q>.
- [12] Bantel, K. A., & Jackson, S. (1998). Top management and innovation in banking, does the composition of top team make a difference. . *Strategic Management Journal*, 10, 107–124.

- [13] Bass, B. M. (1990). *Bass & Stoddill's handbook of leadership: Theory, research, and managerial applications (3rd ed.)*. New York: Free Press.
- [14] Bennis, W. G. (1959). Leadership theory and administrative behavior: The problem of authority. *Administrative Science Quarterly*, 8, 125-165.
- [15] Bolman, L. G., & Deal, T. E. (1991). *Reframing organizations: artistry, choice, and leadership.*: San Francisco: Jossey-Bass.
- [16] Boyatzis, R. E. (1982). *The competent manager: A model for effective performance*. New York: John Wiley & Sons.
- [17] Burns, T., & Stalker, C. (1961). *The management of innovation*. London, England: Tavistock Publications.
- [18] Canibano, L., & Sanchez, M. P. (2004). Measurement, management and reporting on intangibles. State of the art, in Canibano, L. and Sanchez, M.P. (Eds), *Readings on Intangibles and Intellectual Capital*, AECA Madrid. , 81-113.
- [19] Cardinal, L. B. (2001). Technological innovation in the pharmaceutical industry: The use of organizational control in managing research and development. *Organization Science*, 12, 19–36.
- [20] Chavis, D. M., Speer, P. W., Resnick, I., & Zippay, A. (1993). *Building community capacity to address alcohol and drug abuse: Getting to the heart of the problem*. In R. C. Davis, A. J. Lurigio, & D. P. Rosenbaum (Eds.), *Drugs and the community: Involving community residents in combating the sale of illegal drugs* Thomas.: Springfield, IL: Charles C
- [21] Chen, J. K., & Chen, I. S. (2007). Constructing Taiwanese small-enterprise innovative capital indices by using Fuzzy AHP. *The Business Review, Cambridge*, 8(2), 159–164.
- [22] Chen, J. K., & Chen, I. S. (2007). Fuzzy MCDM construct vision developmental indices of tech R&D institutions in Taiwan. *The Business Renaissance Quarterly*, 2(3), 23–41.
- [23] Conner, J. (2000). Developing The Global Leaders Of Tomorrow. *Human Resource Management, Summer/Fall 39(2 & 3)*, 146-157.
- [24] Daft, R. L. (2004). *Organization theory & design.* : New York: West.
- [25] Damanpour, F. (1996). *Innovation effectiveness, adoption and organizational performance*. In M. A. West & J. L. Farr (Eds.), *Innovation and creativity at work* Chi Chester: John Wiley & Sons.
- [26] Damanpour, F. (1998). Innovation type, radicalness, and the adoption process. *Communication Research*, 15, 545–567.
- [27] Damanpour, F. (1991). Organizational innovation: a meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34, 555–590.
- [28] DeLuca, J. R. (1999). *Political savvy: systematic approaches to leadership behind-the-scenes*: Berwyn, PA: Evergreen Business Group.
- [29] Enson, J., Cottam, A., & Band, C. (2001). Fostering knowledge management through the creative work environment: a portable model from the advertising industry. *Journal of Information Science*, 27, 147–155.
- [30] European, & Commission. (2003). *The Role of the Universities in the Europe of Knowledge*, COM (2003) 58 Final, European Commission, Brussels.
- [31] Eyde, L. D., Gregory, D. J., Muldrow, T. W., & Mergen, P. K. (1999). *High-Performance Leaders: A Competency Model*, US Office of Personnel Management.
- [32] Fairholm, G. W. (1993). *Organizational power and politics: tactics in organizational leadership*: Westport, CT: Praeger.
- [33] Farina, C., & Kelly, M. (1983). Innovation policy and the social sciences. *Policy Studies Review*, 3(1), 21–28.

- [34] Francisco, V. T., Paine, A. L., & Fawcett, S. B. (1993). A methodology for monitoring and evaluating community coalitions. *Health Education Research*, 8, 403-416.
- [35] Galaskiewicz, J. (1979). *Exchange networks and community politics*. Beverly Hills, CA: Sage Publications.
- [36] Germain, R. (1996 ). The role of context and structure in radical and incremental logistics innovation adoption *Journal of Business Research* 35(2), 117–127.
- [37] Gibbons, M. (1998). *Higher education relevance in the 21st century*. Paper presented at the UNESCO World Conference on Higher Education, Paris.
- [38] Green, R. (2010). Beyond Financial Literacy:The Importance of Business Acumen Training for Managers and Employees.
- [39] Grusky, O. (1992). *Intergroup and interorganizational relations*. In E. F. Borgatta & M. L. Borgatta (Eds.) (Vol. 2). New York: Macmillan.
- [40] *Handbook for Leader in Government, Energizing Performance and Learning for Creating the Right Impact*.
- [41] Hitt, M. A., Hoskisson, R. E., Johnson, R. A., & Moesel, D. D. (1996). The market for corporate control and firm innovation. *Academy of Management Journal*, 1089–1096.
- [42] Hurley, R. F., & Hult, G. T. M. (1998 ). Innovation,market orientation, and organizational learning: an integration and empirical examination. *J Mark* (62(3)), 42–54.
- [43] Ichniowski C, Shaw K, & G., P. (1997 ). The effects of human resource management practices on productivity: a study of steel finishing lines. *AmEcon Rev* 87(3), 291–313.
- [44] Isaksen, S. G., Laver, K. J., Ekvall, G., & Britz, A. (2001). Perceptions of the best and worst climates for creativity: preliminary validation evidence for the situational outlook questionnaire. *Creativity Research Journal*, 13, 171–184.
- [45] Kimberly, J. R. (1981). Managerial innovation. In P. C. Nystrom & W. H. Starbuck (Eds.), *Handbook of organizational design* (pp. 84–104). NY: Oxford University Press.
- [46] Kimberly, J. R. (1986). The organization context of technological innovation. In: Davis, D.D. (Ed.), *Managing Technological Innovation*. Jossey-Bass, San Francisco, 23–43.
- [47] Kimberly, J. R., & Evanisko, M. (1981). Organizational innovation: the influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal* 24, 679–713.
- [48] King, N., & Anderson, N. (1990). *Innovation in working groups*. In M. A. West, & J. L. Farr (Eds.), *Innovation and creativity at work*. New York: Wiley.
- [49] Kotler, J. (2000 ). *What leaders really do*: Havard Business Review.
- [50] Kotter, J. P. (1995). *Leading Change: Why transformation effort fail*: Harvard Business Review.
- [51] Krause, D. E. (2004). Influence-based leadership as a determinant of the inclination to innovative and of innovate-related behavior: An empirical investigation. *The Leadership Quarterly* 15, 79–102.
- [52] Lasker, R. D. (1997). *Medicine & public health: The power of collaboration*. New York: New York Academy of Medicine.
- [53] Levine, S., & White, P. (1961). Exchange as a conceptual framework for the study of interorganizational relationships. *Administrative Science Quarterly*, 5, 583-601.
- [54] M.L. Voon, M.C. Lo, Ngui, K. S., & Ayob, N. B. (2011). The influence of leadership styles on employees' job satisfaction in public sector organizations in Malaysia. *International Journal of Business, Management and Social Sciences*, 2(1), 24-32.
- [55] Madhavan, R., & Grover, R. (1998 ). From embedded knowledge to embodied knowledge: new product development as knowledge management. *J Mark* 62(4), 1–12.

- [56] Mang, P. Y. (2000). Strategic innovation: Contentions markets on strategy and management. *The Academy of Management Executive*, , 14(3), 43–45.
- [57] Marginson, S. (2011). *Global Perspectives And Strategies Of Asia-Pacific Research Universities in Paths To A World-Class University Lessons From Practices and Experiences* Sense Publishers.
- [58] Marsden, P. (1992). *Social network theory*. In E. F. Borgotta & M. L. Borgotta (Eds.) (Vol. Vol. 4). New York: Encyclopedia of sociology (Macmillan).
- [59] Mattessich, P., & Monsey, B. (1992). Collaboration: What makes it work--A review of research literature on factors influencing successful collaboration. *St. Paul, MN: Amherst H. Wilder Foundation*.
- [60] McClelland, D. D. (1973). Testing for competence rather than for “intelligence”. *American Psychologist*, 28(1), 1-14.
- [61] McLagan, P. (1983). Models for excellence: The conclusion and recommendations of the ASTD training and development competency study. *Washington, DC: The American Society for Training and Development*.
- [62] McLagan, P. (1989). Models for HRD practice. Alexandria, VA: The American Society for Training and Development.
- [63] McLagan, P. (1996). Get ideas revisited. *Training & Development*, 50(1), 60-64.
- [64] Mizrahi, T., & Rosenthal, B. (2001). Complexities of Coalition Building: Leaders' Successes, Strategies, Struggles, and Solutions. *Social Work Publisher: National Association of Social Workers Audience*.
- [65] Mok, K. H. (2010). When State Centralism Meets Neo-Liberalism: Managing University Governance Change In Singapore And Malaysia, Higher Education. *Published On-Line On 9 January 2010*.
- [66] Montes, F. J. L., Moreno, A. R., & Fernandez, L. M. M. (2004). Assessing the organizational climate and contractual relationship for perceptions of support for innovation. *Int J Manpow*, 25(2), 167–180.
- [67] Moon, Y. J., & Kym, H. G. (2006). A model for the value of intellectual capital. *Canadian Journal of Administrative Sciences*, 23(3), 253–269.
- [68] Moorman, C., & Miner, A. S. (1998). Organizational improvisation and organizational memory. *Academic Management Review* 23(4), 698–723.
- [69] Mumford, M. D., Connelly, S., & Gaddis, B. (2003). How creative leaders think: Experimental findings and cases *The Leadership Quarterly* 14, 411–432.
- [70] Mumford, M. D., Feldman, J. M., Hein, M. B., & Nago, D. J. (2001). Tradeoffs between ideas and structure: individual versus group performance in creative problem-solving. *Journal of Creative Behavior*, 35, 1–23.
- [71] Mumford, M. D., Marks, M. A., Connelly, M. S., Zaccaro, S. J., & Johnson, T. F. (1998). Domain based scoring of divergent thinking tests: validation evidence in an occupational sample. *Creativity Research Journal*, 11, 151–164.
- [72] Nadler, D. A., & Tushman, M. L. (1994). Beyond The Charismatic Leader: Leadership and Organizational Change article in a book *The Training and Development Sourcebook* In C. E. Schneier (Ed.).
- [73] Nunnally. (1978). The impact of human resource management practices on Operational performance: recognizing country and industry differences. *Journal of Operational Management*, 19-43.
- [74] Nunnally, & Bernstein. (1994). *Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales*. The Ohio State University, Columbus.: Midwest Research-to Practice Conference in Adult, Continuing, and Community Education.

- [75] Nystrom, P. C., Ramamurthy, K., & Wilson, A. L. (2002). Organizational context, climate and innovativeness: adoption of imaging technology. *Journal of Engineering Technology Management* 19, 221–247.
- [76] O’Sullivan, M. A. (2000). *Contents for corporate control: Corporate governance and economic performance in the United States and Germany*. . NY: Oxford University Press.
- [77] O’Toole, J. (1995). *Leading Change* Concordville, Pennsylvania: Soundview Executive Book Summaries 10 LaCrue Avenue, .
- [78] Oldham, G. R., & Cummings, A. (1996). Employee creativity: personal and contextual factors at work. *Academy of Management Journal*, 39, 607–634.
- [79] Ordaz, C. C., Lara, A. B. H., & Cabrera, R. V. (2005). The relationship between top management teams and innovative capacity in companies. *The Journal of Management Development*, 24(8), 683–704.
- [80] Parnell, J. A., Lester, D. L., & Menefee, M. L. (2000). Strategy as a response to organizational uncertainty: an alternative perspective on the strength–performance relationship. *Management Decision*, 38, 301–392.
- [81] Pierce, J., & Delbecq, L. A. (1977). Organizational structure, individual attitudes, and innovation. *Academy of Management Review*, 2, 27–37.
- [82] Razak, D. S. M. N. T. H. A. (2013). The 2013 Budget Speech "Prospering The Nation, Enhancing Well-Being Of The Rakyat: A Promise Fulfilled". In The Dewan Rakyat
- [83] Reilly, R. R., & Reilly, G. P. (2009). *Building Business Acumen*. HR West.
- [84] Rezak, C. J. (2012). Developing Business-Savvy Leaders Raising The Business Acumen Of Managers For Bottom-Line Impact Leadership White Paper 2012. In I. Paradigm Learning (Ed.).
- [85] Robbins, S. P. (2005). *Organizational behavior*. Upper Saddle River, New Jersey: Prentice Hall.
- [86] Roberts, E. B. (1988). Managing invention and innovation. *Research Management*, 31, 11–29.
- [87] Rodgers, E. M., & Adhikurya, R. (1979). *Diffusion of innovations: up to date review and commentary*. In D. Nimmo (Ed.), *Communication yearbook* (Vol. 3 ). New Bruswick, NJ: Transaction.
- [88] Rogers, E. M. (1995). *Diffusion of Innovations*. New York.: Free Press.
- [89] Rothwell, W. J., & Lindholm, J. E. (1999). Competency identification, modeling and assessment in the USA. *International Journal of Training and development*, 3(2), 90-105.
- [90] Runco, M. A., & Sakamoto, S. O. (1999). *Experimental studies of creativity*. In R. J. Sternberg (Ed.), *Handbook of creativity* Cambridge (Vol. pp. 62–92). England: Cambridge Univ. Press.
- [91] Salmi, J. (2009 ). *The challenge of establishing world-class universities*. Washington, DC: The World Bank.
- [92] Salmi, J., & Liu, N. C. (2011). *Paths To A World-Class University Lessons From Practices And Experiences*: Sense Publishers.
- [93] Sanchez, M. P., & Elena, S. (2006). Intellectual capital in universities improving transparency and internal management. *Journal of Intellectual Capital*, 7(4), 529–539.
- [94] Schroeder, R. G., Van de Ven, A. H., Scudder, G. D., & Polley, D. (2000). *The development of innovation ideas*. In: Van de Ven, A.H., Angle, H.L., Poole, M.S. (Eds.). New York: Oxford University Press.
- [95] Schumpeter, J. A. (1934). *The Theory of Economic Development*. Harvard University Press, Cambridge.
- [96] Scott, R. K. (1995). Creative employees: a challenge to manage. *Journal of Creative Behavior*, 29, 64–71.

- [97] Sessa, V. I. (1998). *E = GR2P: a model for managing research and development teams*. In D. J. Sessa, & J. L. Willett (Eds.), *Paradigm for the successful utilization of renewable resources* (Vol. 17–29): Champaign, IL: AOCS Press.
- [98] Sink, D. W. (1987). Success and failure in voluntary community networks. *New England Journal of Social Services*, 7, 25–30.
- [99] Sirat, M. (2009). Strategic Planning Directions of Malaysia's Higher Education: University Autonomy in the Midst of Political Uncertainties. *Higher Education*, published on-line on 9 July 2009.
- [100] Sonnier, B. M., Carson, K. D., & Carson, P. P. (2007). Accounting for intellectual capital: The relationship between profitability and disclosure. *The Journal of Applied Management and Entrepreneurship*, 12(2), 3–14.
- [101] Sosik, J. M., Kahai, S. S., & Avolio, B. J. (1998). Transformational leadership and dimensions of creativity: motivating idea generation in computer mediated groups. *Creativity Research Journal*, 11, 111–122.
- [102] Sosik, J. M., Kahai, S. S., & Avolio, B. J. (1999). Leadership style, anonymity, and creativity in group decision support systems. *Journal of Creative Behavior*, 33, 227–257.
- [103] Spencer, L., & Spencer, S. (1993). *Competency at work: models for superior performance*. New York: John Wiley and Sons, Inc.
- [104] Stevenson, W. B., Pearce, J. L., & Porter, L. W. (1985). The concept of “coalition” in organization theory and research. *Academy of Management Review*, 10, 256–268.
- [105] Stogdill, R. M. (1974). *Handbook of leadership: A survey of theory and research*. New York: NY7 Free Press.
- [106] Subramaniam, M., & Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450–463.
- [107] Subramanian, A., & Nilakanta, S. (1996). Organizational innovativeness: exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance. *Omega* 24, 631–647.
- [108] Tan, H. P., Plowman, D., & Hancock, P. (2007). Intellectual capital and financial returns of companies. *Journal of Intellectual Capital*, 8(1), 76–95.
- [109] Tsui, A. S., & Ashford, S. J. (1994). Adaptive self-regulation: A process view of managerial effectiveness. *Journal of Management*, 20, 93–121.
- [110] Tushman, M. L., Anderson, P., & O'Reilly, C. A. (1997). Technology cycles, innovation streams, and ambidextrous organizations: organizational renewal through innovation streams and strategic change. In: Tushman, M.L., Anderson, P. (Eds.). *Managing Strategic Innovation and Change*. Oxford, New York, 3–23.
- [111] Tushman, T., & Nadler, D. (1986). Organizing for innovation. *California Management Review*, 28(3), 74–92.
- [112] Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management Science*, 32, 590–607.
- [113] Wang, J. C. A. (2006). Utilizing scandia navigator system and Ohlson model to evaluate the intellectual capital performance for Taiwan electronic corporation. *The Business Review, Cambridge*, 6(1), 186–192.
- [114] Whetten, D. A. (1981). Interorganizational relations: A review of the field. *Journal of Higher Education*, 52, 1–28.
- [115] White, R. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 279–333.

- [116] Wolfe, R. A. (1994). Organizational innovation: review, critique, and suggested research directions. *Journal of Management Studies* 31, 405–431.
- [117] Wu, S.-I., & Lin, C.-L. (2011). The Influence Of Innovation Strategy And Organizational Innovation On Innovation Quality And Performance. *The International Journal Of Organizational Innovation* 3(4).
- [118] Wua, H.-Y., Chen, J.-K., & Chen, S. (2010). Innovation capital indicator assessment of Taiwanese Universities: A hybrid fuzzy model application. *Expert Systems with Applications* 37, 1635–1642.
- [119] Yen, S. R., & Chang, M. H. (2005). A case study of innovation management at schools: Contents and programs. *Journal of Mediate Education*, 56(3), 28–52.
- [120] Yukl, G. (2002). *Leadership in organizations (5th ed.)*: Upper Saddle Creek, NJ: Prentice-Hall.
- [121] Zaccaro, S. J. (2001). *The nature of executive leadership: A conceptual and empirical analysis of success*. Washington, DC: APA Books.
- [122] Zaccaro, S. J. (2002). *Organizational leadership and social intelligence*. In R. Riggio, S. Murphy, & F. J. Pirozzolo (Eds.), *Multiple Intelligences and Leadership* Mahwah, NJ: Lawrence Erlbaum Associates.
- [123] Zaccaro, S. J., Foti, S. J., & Kenny, D. A. (1991). Self-monitoring and trait-based variance in leadership: An investigation of leader flexibility across multiple group situations. *Journal of Applied Psychology*, 76, 308-315.
- [124] Zaccaro, S. J., Gilbert, J. A., Thor, K. K., & Mumford, M. D. (1991). Leadership and social intelligence: Linking social perceptiveness to behavioral flexibility. *Leadership Quarterly*, 2, 317-347.
- [125] Zmud, R. W. (1982). Diffusion of modern software practices: influence of centralization and formalization. *Management Science* 28, 1421–1431.