

## **Knowledge Sharing Behaviour and Performance of Academic Leaders: Mediating Role of Corporate Entrepreneurship**

*Muhammad Shukri Bakar, Rosli Mahmood, Azahari Ramli and Rosli Mohd Saad*

School of Business Management, College of Business, Universiti Utara Malaysia, Kedah, Malaysia

---

**Abstract:** The objectives of this study are to determine the significant relationship between knowledge sharing behaviour and performance of academic leaders and the significant relationship between corporate entrepreneurship and performance of academic leaders. This study is also aimed to determine the mediating effect of corporate entrepreneurship on the relationship between knowledge sharing behaviour and performance. A quantitative research design based on the questionnaire survey was used to collect the data. A total of 246 usable responses were received from academic leaders of twenty public universities throughout the country. The findings reveal significant and positive relationships between knowledge sharing behaviour and performance and corporate entrepreneurship and performance. In addition, corporate entrepreneurship was found to partially mediate the knowledge sharing behaviour and performance relationship. The finding of this study provides empirical evidence that when leaders in the public HEIs share and exchange tacit and explicit knowledge, their performance will be significantly enhanced. This study has an important implication for both institutions and policy makers as public HEIs received large amount of public funds and play an important role in equipping skills and knowledge of the nation's future leaders.

**Key words:** Knowledge sharing behaviour • Corporate entrepreneurship • Performance • Academic leaders

---

### **INTRODUCTION**

Public higher education institutions (HEIs) are continuously looking for strategies to cope with the unprecedented changes in the global environment. The rapid technological advances, an increasingly assertive and diversified public demands and heightened accountability are challenging the ways these institutions are traditionally being managed [1]. This changing landscape requires some of the public HEIs not only to be adaptable and diverse, but also meet those challenges by responding innovatively [2]. One of the strategies is enhancing leadership skills and competencies. Leadership in these institutions is different from other types of business or industry because it has different organizational environment with unique constraints on the part of the leaders [3]. The leaders' performance is a matter of great importance because it reflects not only their individual effectiveness in performing their roles and duties but it also has significant

impact on the performance of the followers, peers and teams which ultimately influences the performance of the institution [4][5][6].

Normally leadership takes place only between persons in relationships and in the course of performing their jobs leaders share knowledge, interact, cooperate and engage with others within and outside their organizations. This collaboration is to result in a team with shared values and goals as well as to ensure that their ideas, insights and knowledge are known and supported by others [7]. Sharing of knowledge allows leaders to reinforce the interest and commitment of those with whom they work, thus creating more opportunities and maximizing cooperation across the team [6]. It is argued that knowledge sharing behavior within the institutions leads to application of new competencies and experiences that enhances problem-solving and decision-making skills and also opportunity recognition and innovation [8][9][10]. Hence, a high level of knowledge sharing behavior may contribute towards the achievement of

shared goal and the attainment of higher performance. Nevertheless, little is known on knowledge sharing behavior in the public higher education institutions (HEIs) despite the growing demands for these institutions to share resources and expertise.

HEIs can also sustain stable growth and remain competitive in this rapidly changing environment by becoming more entrepreneurial. These institutions need to become more dynamic and actively and continuously identify new opportunities sometimes outside their existing resources and core competencies. Evidences have suggested that organizations that learn how to facilitate entrepreneurship have a more competitive advantage and performing well [11][12]. Embracing the concept of entrepreneurship can address uncertainties because these organizations are quick and prompt in respond to changes in turbulence environment [12]. In addition, entrepreneurship can also generate new ways of funding, improve performance at operations level and develop alternative means to meet socio-economic demands. It was also found that lack of attention given to the implementation of entrepreneurial actions successfully may result in failure among many organizations [13].

Thus the aim of this study is to explore the relationships between knowledge sharing behavior, corporate entrepreneurship and the performance of academic leaders in the public higher education institutions in Malaysia. Specifically, the objectives of this study are: (a) to determine the significant relationship between knowledge sharing behaviour and performance of academic leaders, (b) to determine the significant relationship between corporate entrepreneurship and performance of academic leaders and (c) to determine the mediating effect of corporate entrepreneurship on the relationship between knowledge sharing behaviour and performance.

### **Literature Review and Hypotheses Development**

**Knowledge Sharing Behaviour and Performance:** Knowledge sharing is a set of behaviors involving information exchange or assisting others [7] or the provision of task related information and know-how to help and collaborate with others to solve problems, develop new ideas, or implement policies or procedures [14][15]. This happens when individuals mutually exchange their tacit and explicit knowledge and in the process jointly create new knowledge [16][17]. The newly created knowledge forms a critical factor that affects individuals, teams and also organizational performance.

Thus higher levels of knowledge sharing behavior creates greater and better access to newer knowledge, making decisions and problem solving much better, faster and cheaper [18]. Many studies have found positive relationship between knowledge sharing behavior and leadership performance [9][10]. It is argued that when combining the knowledge of individuals into a collective knowledge sharing, leaders can improve their skills, knowledge and abilities needed especially in attempting to solve complicated new problems in different contexts, which may result in better improvement of their own performance [19][20]. Leaders can also impact knowledge sharing on their teammates and followers due to their roles as mentors, facilitators and innovators as well as being controller of resources, incentives and rewards and having considerable power to shape organizational culture [21][22][23].

Similarly, if knowledge is shared its value will grow rapidly because the creation of new knowledge enhances leaders' skills and competencies, thus contributing to individual's behaviors, productivity and performance [24]. In addition, studies have also found the direct link of knowledge sharing behavior to adaptability, flexibility, learning commitment and job satisfaction which in turn improve leaders' competencies and performances [22][23]. Based on these arguments, the following hypothesis is posited:

**H1:** Knowledge sharing behavior has a significant effect on performance of academic leaders in public higher education institutions.

**Corporate Entrepreneurship and Performance:** Considerable attention has been given to the relationship between corporate entrepreneurship (CE) and performance. Many researchers have argued that CE can bolster the organization's overall performance [25][26][27][28][29][30]. CE can also lead to considerable competitive advantage and is part of a successful organization [31]. CE can result in diversified products and markets as well as being instrumental to producing impressive financial results [32]. CE is also a predictor of growth of small firms [25]. Similarly significant and positive relationships were found between the dimensions of CE; innovativeness, proactiveness and risk taking with performance [28][33][34]. Organizations now are forced to be innovative with the emergence of new technologies, globalization and fragmentation of the markets and at the same time continuously be proactive to be ahead of competitors. In addition, these organizations may seize

opportunities and commit resources into ventures with uncertain outcome in order to secure better performance. Based on these arguments, the following hypothesis is proposed:

**H2:** Corporate entrepreneurship has a significant effect on performance of academic leaders in public higher education institutions.

**Knowledge Sharing Behaviour, Corporate Entrepreneurship and Performance:** Knowledge sharing behavior is an important ingredient of the entrepreneurial initiatives because it can lead to efficiency, flexibility and adaptability to face risks and uncertainties, increase opportunity-seeking activities, learning and innovation [35][36][37][38]. In addition, it enables the better use of knowledge as a powerful asset to effect in greater entrepreneurial orientation which not only results in product and market competencies but also process and administrative competencies which significantly leads to enhanced performance [39]. Knowledge sharing behavior enables leaders to exploit the collection of knowledge, talents, ideas and competencies in enhancing innovation which all lead to better performance. Thus, it is posited that:

**H3:** Corporate entrepreneurship mediates the relationship between knowledge sharing behaviour and performance of academic leaders in public higher education institutions.

**Methodology**

**Sample:** Data were collected from mail survey of academic leaders from 20 public universities in Malaysia. Questionnaires developed based on previous studies were randomly mailed to 1000 academic leaders and 246 were returned giving an effective response rate of 24.6 percent. This response rate is considered reasonably adequate given the low response usually associated with mail surveys. There is also an issue of non response bias which is pertinent to survey methodology. Non response bias exists when there are significant differences between the answers of respondents and non respondents. The convention of comparing the respondents of the second wave with those of the early wave was followed [40]. The early wave group consisted of 115 responses whereas the second wave group consisted of 131 responses. The T-test performed on the mean responses of the constructs for these two groups yielded no statistical differences, thus suggesting that response bias is not a problem in this study.

**Measures:** The study adapted the knowledge sharing measures from previous studies by Zhang, Vogel and Guo [41]. A questionnaire consisting seven items was applied. Respondents were asked to indicate their knowledge sharing behavior based on five-point Likert type scale ranging from 1 (not at all) to 5 (frequently). The entrepreneurial orientation (EO) scale of Covin and Slevin [12] was adopted for measuring corporate entrepreneurship for this study. The study operationally defined corporate entrepreneurship as an aggregate of three dimensions comprising innovativeness, proactiveness and risk taking. The questionnaire consists of fifteen (15) items and respondents were asked to indicate their entrepreneurship behaviour based on a five point scale ranging from 1 (strongly disagree) to 5 (strongly agree). For performance measurement, a thirty-eight (38) item questionnaire adapted from Fox et al. [42] was utilized. The measures incorporated the managerial, interpersonal, communication, academic and political factors into a single construct and responses were made on a five-point scale ranged from 1 (strongly disagree) to 5 (strongly agree).

**Reliability and Validity:** Prior to exploring and describing the relationships between knowledge sharing behaviour, corporate entrepreneurship and performance, the measures were examined and assessed to gauge reliability and validity. The Cronbach alpha coefficient was used to evaluate the extent of reliability and the test results ranged from 0.789 to 0.946 exceeding the recommended minimum level of 0.7 [43]. This suggests that all the measures have a relatively high degree of reliability (See Table 1 below).

Factor analysis was also conducted to ensure that the items loaded on the factors as expected. Prior to this the suitability of the data was assessed through two tests; Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett’s Test of Sphericity. The KMO has to be more than 0.50 and Bartlett’s Test of Sphericity has to be significant. For factor analyses, principle component analysis and Varimax rotation were performed. It was suggested that items that had factor loadings lower than

Table 1: Reliability scores

Construct	No. of item	Alpha score
Knowledge sharing behavior	7	0.789
Corporate entrepreneurship	15	0.889
Performance	38	0.946

Table 2: Factor analysis for knowledge sharing behaviour

No	Item	Factor Loading
1.	I share my experience or know how from work with other team members	.7806
2.	I share my knowledge about know-where or know-how at the request of other team members	.743
3.	I share work reports and documents with members of my team	.714
4.	I share related knowledge obtained from other media	.688
5.	I share report templates, models and designing methodologies with members of my team	.680
6.	I share success and failure stories about my work in documents with members of my team	.624
7.	I share my expertise obtained from my education or training with other team members	.606
Eigen value		3.405
Percentage of variance explained		49.640
KMO		.832
Bartlett's Test of Sphericity: Sig < .001		
Reliability		0.819

Table 3: Factor analysis for corporate entrepreneurship

No	Item	Factor Loading
1.	I find new ways to do things	.661
2.	I develop new processes, services or products	.656
3.	I do things that have a chance of not working out	.646
4.	I tend to implement changes before they are needed	.639
5.	I often do things in unique ways	.625
6.	I approach tasks in innovative ways	.596
7.	I actively fix or improve things I don't like	.575
8.	I keep ahead of changes instead of responding to them	.564
9.	I take the initiative to start projects or assignments	.560
10.	I will take calculated risks despite the possibility of failure	.546
11.	I engage in activities that have a chance of not working out	.545
12.	I approach new assignments/activities in a cautious manner	.429
Eigen value		6.656
Percentage of variance explained		55.465
KMO		.847
Bartlett's Test of Sphericity: Sig < .001		
Reliability		.814

0.40 should be eliminated ([44] *et al.*, 2006). Table 2 shows the KMO value for knowledge sharing behaviour was 0.832 and the Bartlett's Test of Sphericity was significant at  $p < 0.001$ . The results support the factorability of the data. The varimax rotated principle component factor analysis applied has resulted in a single factor loading that explained 49.640 percent of the variance. Factor loading was based on 7 items that represented knowledge sharing behavior and no deletion was made as all items met the loading criteria [44].

Table 3 shows the KMO value of 0.847 and the Bartlett's Test of Sphericity significance level at  $p < 0.001$  for corporate entrepreneurship. The results support the factorability of the data. The varimax rotated principle component factor analysis applied has resulted in a single factor loading that explained 55.465 percent of the variance and factor loading was based on 12 items that represented corporate entrepreneurship. Three items were omitted as they were below the threshold value of 0.40 [44].

Table 4: Regression analysis for knowledge sharing behaviour, CE and performance

	Std Error	$\beta$	T	Sig.
Performance (constant)				
Knowledge sharing behaviour	.041	.391	6.663	.000*
Corporate entrepreneurship	.044	.368	6.773	.000*

R square = .361, Adjusted R square = .356,

\* Sig  $p < 0.001$

**Hypotheses Testing:** Multiple regressions analysis was used to examine H1 that is the relationships between knowledge sharing behaviour and performance and H2 that is the relationship between corporate entrepreneurship and performance. Multiple regressions was employed because it not only predicts the effect of independent variables (knowledge sharing behaviour and corporate entrepreneurship) on the dependent variable (performance), but it also simultaneously examine the unique strength and direction of the individual contribution of independent variables on the dependent variable. Results from the analysis are shown in Table 4.

The table shows that both knowledge sharing behaviour and corporate entrepreneurship have significant positive relationship to performance and these two variables explained 35 percent of the variability in performance. Therefore H1 and H2 are accepted. These findings concur with many past studies which found significant and positive relationship between knowledge sharing behavior and performance in the industry [24][18][9][10] and also in the academic setting [23]. Similarly the finding of H2 also confirms past studies on positive and significant relationships between corporate entrepreneurship and performance [45][27][46][47][48][34].

To test hypothesis 3 (H3) that is the mediating effect of corporate entrepreneurship on the relationship between knowledge sharing behaviour and performance, a regression procedure specified by Baron and Kenny [49] was used. According to this procedure, it must be demonstrated that the predictor variable (knowledge sharing behaviour) is related independently to both mediator (corporate entrepreneurship) and outcome (performance) variables. The mediation takes place where the regression coefficient associated with knowledge sharing behavior and performance relationship shrinks or goes to zero when corporate entrepreneurship as a mediator is added to the equation. If the effect goes to zero when the mediator is added than full mediation has taken place, however, if the effect only shrinks in the presence of the mediator, then partial mediation has occurred. Figure 1 shows a model of relationships between knowledge sharing behavior, corporate entrepreneurship and performance. It indicates that the conditions for mediation as suggested by Baron and Kenny [49] were met. First, the predictor variable (knowledge sharing behaviour) was significantly related to performance ( $\beta = 0.391$ ,  $p < .001$ ) and second it was also significant to corporate entrepreneurship as a mediator variable ( $\beta = 0.244$ ,  $p < .001$ ). Third, the mediator variable to performance was significant with both knowledge sharing

behaviour leadership and corporate entrepreneurship as predictor variables ( $\beta = 0.368$ ,  $p < .001$ ). Finally, the effect of knowledge sharing behaviour was still significant but with a reduced beta value when corporate entrepreneurship as a mediator was added in the regression ( $\beta = 0.391$  to  $\beta = 0.288$ ). Thus, H3 is partially supported as partial mediation was registered because the effect of knowledge sharing behaviour on performance was reduced to a significant level.

## DISCUSSIONS AND CONCLUSION

The first objective of this study aimed to investigate the effect of knowledge sharing behaviour on performance of academic leaders in public higher education institutions. The findings reveal that knowledge sharing behaviour has a significant positive effect to performance and this means that a higher level of knowledge sharing behaviour would result in a higher level of performance of academic leaders in the Malaysian public HEIs. Effective knowledge sharing amongst academic leaders enables them to contribute and distribute their ideas, work-related knowledge, expertise and experience to others. It also enables academic leaders to consider other people's ideas and insights and learn from them resulting in the enhancement of their capabilities and competencies to perform their roles and duties. Greater awareness and larger access to new knowledge through knowledge sharing allow them to cope with the challenges that come with their roles and responsibilities, hence facilitate them to perform better.

Since the individual academic leaders' performances have a significant contributory effect on organizational performance, although not examined in this study, it is likely that HEIs' performance may as well be enhanced with their superior performance as a result of higher knowledge sharing behaviour amongst them. The second objective of the study investigated the effect of corporate entrepreneurship on performance of academic leaders. The findings also similar with past studies (e.g. [50][51][52][53]) that revealed significant and positive relationship to performance which indicates that as corporate entrepreneurship levels increase performance also increases. This suggests that academic leaders who exhibit high level of innovativeness, who are proactive and have a high propensity to take or accept risks are likely to positively impact their performance. These are the attributes the academic leaders in the HEIs need to sharpen their problem solving and decision-making skills and hence giving exceptional performances.

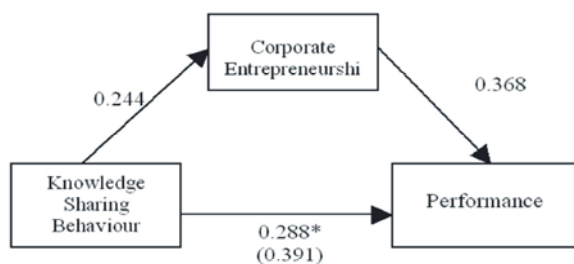


Fig. 1: Mediation model of corporate entrepreneurship on knowledge sharing behaviour-performance relationship

Examining the mediating effect of corporate entrepreneurship on the relationship between knowledge sharing behaviour and performance was the third and final objective of the study. The finding establishes that the effect of knowledge sharing behaviour on performance is a mediated relationship where corporate entrepreneurship acts as a conduit in enhancing the effect of their relationships. According to Baron and Kenny [49] a mediated relationship is assumed if a predictor variable has its effect on the outcome variable via a mediator variable. Thus the effect caused by knowledge sharing behaviour on performance is shared by the influence of the direct effect of corporate entrepreneurship on performance. Those academic leaders who possess knowledge sharing attributes are also inclined towards corporate entrepreneurship, resulting in higher performance.

This study has contributed to a better understanding of leadership attributes and behaviors in public higher education institutions, nevertheless it has some limitations that must be considered and possibly addressed in future research. First, the cross-sectional nature of this study could only capture and analyse a snapshot of a phenomenon and therefore failed to examine the change of respondents' perception over time. This can be overcome by conducting a longitudinal study to track the perceptions of respondents over a considerable period of time. The study was also limited by the use of a self-reported questionnaire which made it impossible to validate respondents' profile to clarify the meaning of questions. Finally, only a single research methodology approach was employed and future research through other methods could be undertaken to triangulate.

## REFERENCES

1. Sullivan, J., 2011. Global leadership in higher education administration. Unpublished PhD dissertation, University of South Florida, USA.
2. Nayyar, J. and R. Mahmood, 2014. The effect of corporate entrepreneurship determinants on performance of public higher education institutions in Pakistan. *Business and Entrepreneurship Journal*, 3(1): 19-31.
3. Gmelch, W.H., 2002. The call for department leaders, 54<sup>th</sup> Annual Meeting of the American Association of Colleges for Teacher Education, New York.
4. Bass, B.M. and R.E. Riggio, 2006. *Transformational leadership*. New Jersey: Lawrence Erlbaum.
5. Bass, B.M. and R. Bass, 2008. *The Bass handbook of leadership: Theory, research and managerial applications*. New York: Free Press.
6. Wang, G., I. Oh, S.H. Courtrigh and A.C. Colbert, 2011. Performance across criteria and levels: A meta-analytic review of 25 years of research. *Group and Organization Management*, 36(2): 223-270.
7. Connelly, C.E. and E.K. Kelloway, 2003. Predictors of employees' perceptions of knowledge sharing cultures. *Leadership and Organizational Development Journal*, 24(5): 294-301.
8. Jackson, S.E., C.H. Chuang, E.E. Harden, Y. Jiang and J.M. Joseph, 2006. Toward developing human resource management systems for knowledge intensive teamwork. In J.M. Joseph (ed). *Research in personnel and human resources management*, pp: 27-70). Amsterdam: JAI.
9. Fleming, D. and H. Soborg, 2010. Malaysia's human resource strategies for a knowledge-based economy: Comparing the influence of different labour market relations. *European Journal of Social Sciences*, 16(2): 278-298.
10. Yesil, S., T. Buyukbese and A. Koska, 2013. Exploring the link between knowledge sharing enablers, innovation capability and innovation performance. *International Journal of Innovation Management*, 17(4): 121-141.
11. Zahra, S.A. and J.G. Covin, 1995. Contextual influences on the corporate entrepreneurship and performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(1): 43-49.
12. Mahmood, R., 2013. *Developing a corporate entrepreneurship model for the sustainability of public higher education institutions*. Sintok: Universiti Utara Malaysia.
13. Zahra, S.A., 1991. Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 8: 319-340.
14. Cummings, J.N., 2004. Work group, structural diversity and knowledge sharing in a global organization. *Management Science*, 50(3): 352-364.
15. Pulakos, E.D., D.W. Dorsey and W.C. Borman, 2003. Hiring for knowledge-based competition. In S.E. Jackson, M.A. Hitt and A.S. Denisi (eds). *Managing knowledge for sustained competitive advantage: designing strategies for effective human resource management* (pp: 155-176). San Francisco: Jossey-Bass.

16. Wiig, K.M., 2002. Knowledge management in the public administration. *Journal of Knowledge Management*, 6(3): 224-239.
17. Van den Hoof, B. and J.A. De Ridder, 2004. Knowledge sharing in context: The influence of organizational commitment, communication climate and CMC use on knowledge sharing. *Journal of Knowledge Management*, 8(6): 117-130.
18. Alhammad, F., S. Al Faori and L.S. Abu Husan, 2009. Knowledge sharing in Jordanian universities. *Journal of Knowledge Management Practice*, 10(3): 1-9.
19. Al Hawamdeh, S., 2003. Knowledge management cultivating knowledge professionals. Oxford: Chandos Publishing.
20. Jensen, M.L., 2011. Nurturing self-knowledge: the impact of a leadership development program. *Organization Development Practitioner*, 43(3): 30-35.
21. Bartol, K. and A. Srivastava, 2002. Encouraging knowledge sharing: the role of organizational reward systems. *Journal of Leadership and Organizational Studies*, 9(1): 64-76.
22. Riege, A., 2005. Three dozen knowledge sharing barriers managers must consider. *Journal of Knowledge Management*, 9(3): 18-35.
23. Yang, C.W., 2008. The relationships among leadership styles, entrepreneurial orientation and business performance. *Managing Global Transitions*, 6(3): 257-275.
24. Oliver, S. and K.R. Kandadi, 2006. How to develop knowledge culture in organization? A multiple case study of large distributed organizations. *Journal of Knowledge Management*, 10(4): 6-24.
25. Covin, J.G. and D.P. Slevin, 1991. A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice*, 16: 7-25.
26. Lumpkin, G.T. and G.G. Dess, 2001. Linking two dimensions of entrepreneurial orientation to firm performance: the moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5): 429-451.
27. Wiklund, J. and D. Shepherd, 2005. Entrepreneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing*, 8: 319-340.
28. Avlonitis, G.J. and H.E. Salavou, 2007. Entrepreneurial orientation on SMEs, product innovativeness and performance, *Journal of Business Research*, 60: 566-575.
29. Mahmood, R. and R. Abd Wahid, 2012. Applying corporate entrepreneurship to bank performance in Malaysia. *Journal of Global Entrepreneurship*, 3(1): 68-82.
30. Bakar, M.S. and R. Mahmood, 2014. Linking transformational leadership and corporate entrepreneurship to performance in the public higher education institutions in Malaysia. *Advances in Management and Applied Economics*, 4(3): 109-122.
31. Pinchot, G., 1985. *Intrapreneuring: why you don't have to leave the corporation to become an entrepreneur*. New York: Harper and Row.
32. Kuratko, D., R.D. Ireland and J. Hornsby, 2001. Improving firm performance through entrepreneurial actions: Accordia's corporate entrepreneurship strategy. *Academy of Management Executive*, 15(4): 60-71.
33. Kreiser, P.M. and J. Davis, 2010. Entrepreneurial orientation and firm performance: The unique impact of innovativeness, proactiveness and risk taking. *Journal of Small Business and Entrepreneurship*, 23(1): 39-51.
34. Bakar, M.S. and R. Mahmood, 2013. Investigating the effect of corporate entrepreneurship on performance of academic leaders in public universities. Paper presented at the International Conference on Social Education and Community 2013, Langkawi, Kedah, Malaysia, Nov., pp: 11-13.
35. Morris, M.H. and D.F. Kuratko, 2002. *Corporate entrepreneurship*. Mason: South-Western.
36. Drejer, A., K.S. Christensen and J.P. Ulhoi, 2004. Understanding intrapreneurship by means of state-of-the-art knowledge management and organizational learning theory. *International Journal of Management and Enterprise Development*, 1(2): 102-119.
37. Stewart, J.T., 2009. An investigation of an intrapreneurial orientation among employees in service organizations. Unpublished doctoral dissertation, Ohio State University, US.
38. De Clercq, D., D. Dimov and N.T. Thongpapanl, 2013. Organizational social capital, formalization and internal knowledge sharing in entrepreneurial orientation formation. *Entrepreneurship Theory and Practice*, 37(3): 505-537.
39. Li, Y.H., J.W. Huang and M.T. Tsai, 2009. Entrepreneurial orientation and firm performance: The role of knowledge creation process. *Industrial Marketing Management*, 38(4): 440-449.

40. Armstrong, J.S. and T.S. Overton, 1977. Estimating non-response bias in mail survey. *Journal of Marketing Research*, 14(3): 396-462.
41. Zhang, X., D. Vogel and C. Guo, 2008. Understanding the instrumental value of knowledge sharing behavior: The three way interaction of task environment, individual difference and organizational instrumentality. *Pacific Asia Conference on Information System*.
42. Fox, R., M.K. Burns and K.I. Adams, 2005. Academic chairperson evaluation instrument: A potential design, *Academy of Educational Leadership Journal*, 9(2): 41-49.
43. Nunnally, J.C., 1978. *Psychometric theory*. New York: McGraw Hill.
44. Hair, J.H., R.E. Anderson, R.L. Tatham and W.C. Black, 2006. *Multivariate data analysis with readings*. New Jersey: Prentice Hall.
45. Wiklund, J. and D. Shepherd, 2003. Research notes and commentaries: Knowledge based resources, entrepreneurial orientation and performance of SMEs. *Strategic Management Journal*, 24: 1307-1314.
46. Holt, D.T., W.M. Rutherford and G.R. Clohessy, 2007. Corporate entrepreneurship: an empirical look at individual characteristics, context and process. *Journal of Leadership and Organizational*, 13(4): 40-45.
47. De Jong, J.P., S.K. Parker, S. Wennekers and C. Wu, 2011. Corporate entrepreneurship at the individual level: Measurement and determinants, *EEIM Research Reports*, pp: 1-27.
48. Bosma, N.S., E. Stam and A.R. Wennekers, 2012. *Intrapreneurship: A macro perspective*, Paper presented at the 2012 Babson College Entrepreneurship Research Conference, Fort Worth, Texas.
49. Baron, R.M. and D.A. Kenny, 1986. The moderator-mediator distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-1182.
50. Romle, A.R. and A.S. Shamsudin, 2006. The relationship between management practices and job satisfaction: The case of assistant registrar at public institutions of higher learning in Northern Region Malaysia, *The Journal of Human Resource and Adult Learning*, 2(2): 72-80.
51. Romle, A.R., R.C. Razak and A.S. Shamsudin, 2015. Mapping the relationships between quality management practices, human-oriented elements and organizational performance: A proposed framework, *International Journal of Innovation, Management and Technology*, 6(3): 196-201.
52. Manzuma-Ndaaba, N.M., Y. Harada, A.R. Romle and A.S. Shamsudin, 2016. Cognitive, affective and conative loyalty in higher education marketing: Proposed model for emerging destinations. *International Review of Management and Marketing*, 6(S4): 161-167.
53. Manzuma-Ndaaba, N.M., Y. Harada, A.R. Romle and A.S. Shamsudin, 2016. International students destination loyalty behavior: Conceptual framework for emerging destinations. *International Review of Management and Marketing*, 6(S4): 161-167.