

Synergistic Roles of Psychological and Organisational Factors in Cultivating Intrapreneurship to Enhance Performance

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ABSTRACT

The aim of this paper is to investigate the psychological and organisational factors that can be crafted to promote intrapreneurial behaviour among Malaysian workforce which could subsequently enhance their overall performance. This study specifically examines the effects of psychological factors (i.e., locus of control, propensity to take risk, and need for achievement as well as the organisational factors (i.e., management support, work discretion, reward and reinforcement, organisational boundaries and time availability) on intrapreneurial behaviour. Following that, the effect of intrapreneurial behaviour on job performance is also tested. Of 500 questionnaires distributed, 263 were found usable. Multiple regression is utilised to test the hypothesized relationship. The findings unearthed that all paths are significant except for the effect of time availability on intrapreneurial behaviour. Overall, this study offers valuable insights into the psychological factors as well as factors within an organisation that could instigate intrapreneurial culture among Malaysian workforce.

Keywords: Intrapreneurship, job performance, psychological factors, organisational factors.

1. INTRODUCTION

The current commercial landscape has put Malaysian firms under pressure from foreign competitors. Global trend of free trade and elimination of barriers pushed by WTO had made Malaysian firms vulnerable, experiencing stiffer competition than ever, heading challenges of decreasing demand with the recent economic downfall and increasing international competitors which are more developed in technologies and financial strength. Having noted that, the declining trend for Malaysia in the ranking of Global Competitiveness Index, from 21st place in year 2009 to 26th in year 2011 (World Economic Forum, 2010), is a worrying phenomenon. It has been stressed that in order to transform the organisation to be more competitive, organisation should capitalize on their employees' ability to innovate (De Jong & Hartog, 2007). Possibly, by fostering innovativeness and entrepreneurship spirit among the workforce, productivity and performance could

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be enhanced, which subsequently augment the competitiveness of Malaysian firms.

Having noted that, it has been reported that Malaysian innovative human capital in Malaysia is still not on par for global competitiveness; the reason being are; (i) There is a lack of supply of innovative human capital as there are brain drains due to weak strategies to retain talent. There is also an insufficient number of post graduates in Malaysia. To be a developed nation, there is a need for 50 RSE (Research Scientist and Engineers) per 10,000 workforces; however, Malaysia only achieved 21 RSE per 10,000 workforces currently, and (ii) there is a lack of quality of innovative human capital as most Malaysian has limited pioneer mindset capability and curriculum lacks elements of creativity & innovation.

As reported in the Economic Transformation Programme Report, Malaysia's strategic plan to transform its economy focuses on strengthening and escalating human capital development (National Economic Advisory, 2010). As clearly highlighted by the Prime Minister of Malaysia, Dato Seri Najib Tun Razak, Malaysia aspires to reach the highest standards with regard to the skills, knowledge and abilities of its human capital as well as to foster entrepreneurial spirit especially in the innovation-centred economy. Nevertheless with the current situation that are uncertain and dynamic, Malaysia needs to encourage "innovative minds" among the human resources- to be innovative, creative and proactive in order to move towards innovation-centred economy. Malaysia has to strengthen its capability to innovate, adapt and create indigenous technology, design, develop and market new products. Furthermore, the government also has granted the "Strategic Knowledge-based Status" to organisations that have potential to generate knowledge content, high value-added operations, usage of high technology, and a large number of knowledge workers and posses a corporate knowledge-based master plan. In brief, Malaysia government has put an effort and continuous investment in its human capital to enhance proactiveness, creativity and innovativeness to drive the knowledge-based and innovation-centred economy. Malaysia has to move towards a sustainable economy, and clearly, innovativeness becomes the main driver for this transformation. Collectively, this required "intrapreneurship culture" to be nurtured.

In line with efforts of Malaysian government to transform the economy and enhancing entrepreneurial initiatives, this study is deemed timely to understand factors that contribute towards entrepreneurial behaviour amongst employees. Thus, the main objective of this research is to examine organizational factors that could influence corporate entrepreneurial behaviour and subsequently examine the effect the effect of corporate entrepreneurship on job performance

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Conceptualisation of Intrapreneurship

Intrapreneurship behaviour in this study can be translated as the innovativeness and proactiveness behaviour among individual employees in an organization. This concept is gaining popularity in recent years to be a main factor to improve employee work performance. Intrapreneurship or entrepreneurship within existing organisations refers to employee initiatives in an organisation to start or undertake something new although he or she is not being asked to do so. Opportunity pursuit, resource acquisition, risk taking, proactiveness and innovativeness are believed to be the key elements of entrepreneurial behaviours in existing organisations (De Jong & Wennekers, 2008). According to the authors, there are several important characteristics of intrapreneurs which include; (1) proactive individuals who are self-starters or having an initiatives to generate the new ideas, (2) individuals who find a way to pursue opportunities regardless of the resources controlled by them currently, and (3) individuals who undertake something that are considered “innovative” or “new” and their actions and behaviours often deviate from the customary ways of doing things in existing firms.

In a research conducted by Ergun et al (2004), innovativeness and proactiveness are traits that have positive correlation with enhanced individual work performance. Innovation refers to continuous development or new development of production procedures, methods, product improvements and new product development to sustain competitive advantage. According to Jackson & Schuler (2002), innovation happens when people juxtapose existing ideas and information in new ways. According to Hage (1999), innovation is the key to survival in global competition. Morris et al (2008) in their work suggests globalization of markets, dramatic social change, government deregulation, fragmentation of markets and emergence and improvement of technologies had pressure modern firms to be more innovative.

Proactiveness refers to aggressive posturing relative to competitors. Proactive behaviour refers to people whom makes things happens. Morris et al (2008) states that proactiveness is concerned by implementation by taking of responsibility in realizing the entrepreneurial concept by doing whatever necessary and it involves willingness to assume responsibility of failure, adaptability and considerable perseverance. Various scholarly articles had shown that everyone had the potential to be proactive. Proactive behaviour is important in current working situation as it had been more complex than ever. With increasing competition, there had been increasing pressure on innovation. It is important to have proactiveness in the company so that the management are able to have more exposure on ideas and suggestion from the bottom to top.

Psychological Factors

According to Jong and Wennekers (2008), psychology ownership in organization which is subjective feeling of individuals is formed by having control of one's job (locus of control), having feelings of efficacy, investing time, ideas and energy (self-investment) in specific organizational factor. Psychological skill which refers to having the mindset and mental skill such as passion, commitment, confidence, self-awareness, willingness to learn, action orientation, psychological resilience, and tolerance of uncertainty is said to be crucial for successful intrapreneurship (Gilberstson, 2002). In most instances, entrepreneurs possess specific personality characteristics such as need to achieve and risk-taking propensity to lead an innovative new venture. Wong, Cheung and Venuvinod (2005) found that need for achievement and risk-taking propensity have significant positive result on the generation the innovative ideas. In the present study, locus of control, propensity to take risk and need for achievement and their relationship to intrapreneurship, are explored.

Locus of control

The personality characteristics associated with creative individuals who attend to their inner voices are openness, internal locus of control, persistence, self-directed and self-confidence (Selby, Shaw & Houtz, 2005). This indicates that creative individuals are based on their personal beliefs about what is worthwhile in pursuing the new ideas. Moreover, internal locus of evaluation which is derived from intrinsic motivation will strengthen the personal beliefs and therefore it is recognized as important trait to be creative and innovative. Hayton and Kelley (2006) mention that one of the key competence in promoting corporate entrepreneurship (intrapreneurship) is brokering competence which is derived from one's own personal confidence, creativity and curiosity.

Propensity to take risk

Risk-taking emphasizes on the possibility of loss in pursuing new opportunities and taking bold actions quickly with the available resources. Selby, Shaw and Houtz (2005) highlight that risk taking and tolerance for ambiguity are those characteristics associated with creative individuals who possess openness in generating new ideas and have courage to explore those ideas. In creating an innovative new venture, the entrepreneurs must be able to deal with uncertainty or risk-taking. This can be proved from the study conducted by Wong, Cheung and Venuvinod (2005) which illustrates that risk-taking propensity has significant positive correlation to idea factors (mental inventions, need supporting, solution spotting and taking advantage of random event) of generating innovative ideas, which is an element of intrapreneurship.

Need for achievement

According to McClelland and Burnham (2003), high need for achievement person, tends to set challenging goals, work hard to achieve the goals and use the skills and abilities required to achieve the goals. The authors have developed a descriptive set of factors that exhibit a high need for achievement which include:- (i) take responsibility in problem solving, (ii) set moderate achievement goals by taking calculated risk, and (iii) desire feedback on performance. An empirical study shows that “need of the achievement” has positively correlated to the idea factors (need supporting, solution spotting and taking advantage of random event) of generating innovative ideas (Wong, Cheung & Venuvinod, 2005). Based on the preceding discussion, it is apparent that personality characteristics such as locus of control, propensity to take risk and need for achievement were proven to have significant effect on intrapreneurial behaviour. As such the present study postulates that:

H1: Psychological factors (i.e., locus of control, propensity to take risk and need for achievement) will have positive significant influence on intrapreneurial behaviour (i.e., innovativeness and proactiveness).

Organizational Factors

Management support

Management support refers to the “willingness of the top-level managers to facilitate and promote entrepreneurial behaviour; including championing of innovative ideas and providing the resources people require to take entrepreneurial actions” (Kuratko, Ireland, Covin & Hornsby, 2008, p. 703). The degree of willingness of management to promote the intrapreneurial behaviour in supporting the workforce has been considered as the best way to maximum outcome of corporate entrepreneurship (Bhardwarj, Sushil & Momaya, 2007). A study conducted by Holt, Rutherford and Clohessy (2007) found that management support explained significant variations in fostering intrapreneurship behaviour. In another study by Rutherford and Holt (2007), it was found that the way leaders promote intrapreneurship and the diffusion of an entrepreneurial mindset within the organisation will influence the employees’ behaviour. Management support in the form of supporting for change can encourage the employees to embrace intrapreneurship culture within an organisation.

Work discretion

Work discretion can be defined as the power or right to act in own judgment. As mentioned by Taveggia and Hedly (1976), highly specialized jobs with minimum discretion often create dissatisfied employees. Morris et al. (2008) stated that

there is an expectation for bottom up innovation in decentralized, flattened organizational structures as it encourages more participation in management, empowerment and rewards for champion, more autonomy, more broadly defined jobs and more decision making pushed down to bottom. According to Foss and Foss (2001) this is important in order to stimulate intrinsic motivation, better utilise expert knowledge or entrepreneurship. Therefore, the provision of work discretion will allow employees to be more motivated hence fostering more innovation among employees and promotes better decision quality.

Rewards/ Reinforcement

The availability of reward and reinforcement is one of the important factors that could encourage intrapreneurship (De Jong & Wennekers, 2008). According to De Jong and Hartog (2007) in order to stimulate innovative behaviours, allocating necessary time and money are essential to implement the ideas generated by the innovative employees. Financial or material rewards also have been proved to have the influence on new ideas generation and application. In addition, Bhardwarj, Sushil and Momaya, (2007) also note that one of the drivers of entrepreneurship is rewards given to the well performed employees. Rewards can be in terms of recognition, appraisal or monetary factors. Hence, leaders should provide sufficient funding and other resources to encourage innovation behaviour.

Time Availability

It has been affirmed that time is required to continuously engage in entrepreneurial actions (Kuratko et al., 2005). With more time, employees are able to be involved in more experiments which aid to accomplish faster and better work in future. Morris, Kuratko and Covin (2008) also stressed that time is an important factor and barrier for corporate entrepreneurial behavior. They highlight that many people in fact are simply busy because there is a need to interpret daily information load. Time is therefore an inevitable factor in promoting corporate entrepreneurial activity amongst employees in an organization.

Organizational Boundaries

Organizational boundaries are referred to as “precise explanations of outcomes expected from organizational work and development of mechanisms for evaluating, selecting, and using innovations” (Kuratko et al., p. 704). In fostering intrapreneurship behaviour, employees must be encouraged to look at the organization from a broad perspective. There are two approaches to organizational boundaries namely the realist approach which focuses on the participants and the nominalist approach which focuses on the analytic purpose. Morris et al. (2008) suggest that a boundaryless organization is essential as it

eliminates artificial barriers that resistant people to change and slow things down. A boundaryless organization takes people out of the box and eliminates boundaries of both outside players and people inside the organization. Top management should reduce dependence on narrow descriptions and rigid performance standards and avoid having standard operating procedures for all major parts of jobs. Based on the above argument, this study conjectures that:

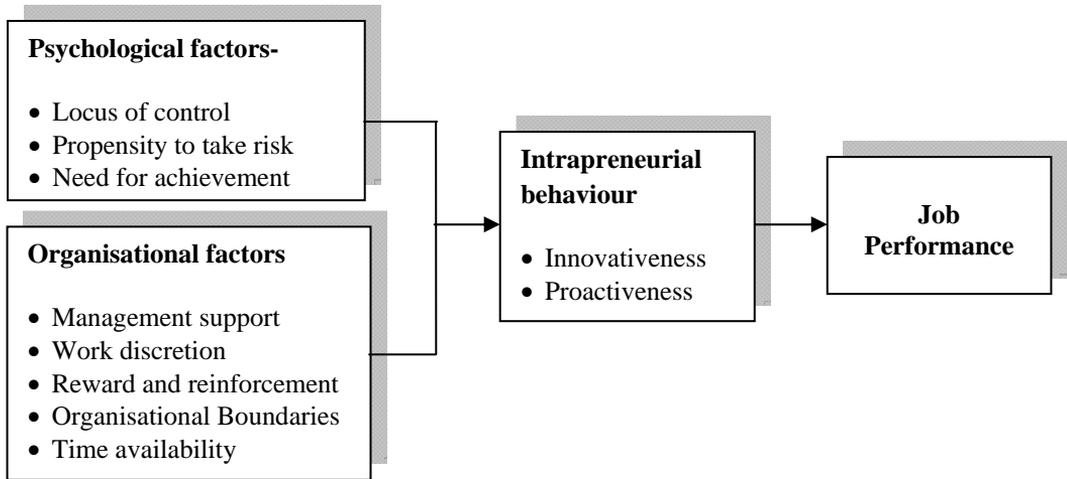
H2: Organisational factors (i.e., management support, work discretion, reward and reinforcement, organisational boundaries and time availability) will have positive significant influence on intrapreneurial behaviour (i.e., innovativeness and proactiveness).

Intrapreneurship Behaviour and Job Performance

Intrapreneurial behaviours among employees has always been associated with positive results, be it at individual level or organizational level. For individual, the outcome is often related to higher job satisfaction and greater commitment at workplace (Holt, Rutherford, & Clohessy, 2007) whereas at the organizational level, the positive result typically come in the form of objective profitability and better firm (Zahra & Garvis, 2000). Job performance measure can differ along many dimensions due to different job categories that are using different criteria in measuring performance. According to Atkinson (1998), each individual should be evaluated using a set of performance measure that is broad enough to capture the main elements of the person's job, but small enough to be manageable. Becker, Billings, Eveleth and Gilbert (1996) assessed job performance via six items: (1) completed work in a timely and effective manner, (2) performed high-quality work, (3) completed tasks in an unsatisfactory manner, (4) quality of work, (5) quantity of work, and (6) overall performance. In Janssen's (2001) study, job performance is classified into two dimensions: (1) standard job performance that refers to the extent employee fulfils organizationally prescribed work role expectation, and (2) innovative job performance which refers to innovative behaviour of the employee at work. In this study, it is conjecture that:

H3: Intrapreneurial behaviour will have a positive significant effect on job performance.

Figure 1: Theoretical Framework



3. METHODOLOGY

Sample

Five hundred self-administered questionnaires were distributed to the respondents in different manufacturing organisations in the Northern Region of Malaysia, of which, 263 questionnaires were found usable. Of 263 respondents, 59.2% are males and 40.8% are females. Chinese respondents comprise 76% of the total respondents followed by Malays (17.4%) and Indian 0.5%. With regards to the job position of respondents in the present organisation, 3.3% are managers and supervisors, 88.7% were engineers and 8% were programmer. In terms of the number of year serving in the present organisation, 24.9% of the respondents have being serving in their present organisation less than a year, 43.2% have being serving between one to three years, 19.2% have being serving between four to six years and only 12.7% have being serving more than six years. The findings also indicate that majority of the organisations were manufacturing semiconductor (33.8%), followed by manufacturing hard drivers and personal computer (31%), manufacturing two-way radio product (21.6%) and only 13.6% were manufacturing high end steel and precision tools. In terms of number of employees, 0.9% of the organisation were having 799 employees and below, 22.5% of them were having 800 to 1099 employees, 15% of them were having 1100 to 1399 employees, 11.7% of them were having 1400 to 1699 employees, 39.4% of them were having 1700 to 1999 employees and 10.5% of them were having 2000 employees and above.

Measurement

The measurement for locus of control (3 items) and need for achievement (4 items) are adopted from Indarti and Kristiansen (2003). Propensity to take risk is measured using 3 items developed by Jong and Wennekers (2008). Responses to these items were made on a 5-point response format (“1= strongly disagree” to “5= strongly agree”). The organisational factors which consist of management support, work discretion, reward and reinforcement, time availability and organisational boundaries were measured using the Corporate Entrepreneurship Assessment Instrument (CEAI) developed by Kuratko and Hornsby (2008). Participants responded to the CEAI items using a five-point Likert-type scale, with 1= “representing strongly disagree” and 5= “representing strongly agree”. Management support was measured with 19 items. Work discretion was measured with ten items. Rewards and reinforcement were measured with 6 items. Time availability was measured with 6 items. Finally, organizational boundaries were measured with 7 items. Intrapreneurial behaviour which includes innovativeness and proactiveness elements are measured using a 10-item instrument developed by De Jong (2007). Finally, items for job performance were adapted from Becker et al., (1996) and Janssen (2001). Similarly, responses to these items were made on a 5-point response format (“1= strongly disagree” to “5= strongly agree”).

4. RESULT AND FINDINGS

The model was tested using multiple regression analysis. As shown in Table 1, the tested model that examined the relationships between psychological and organisational factors and innovativeness (an element of intrapreneurship) is significant with the F value of 75.05 ($p < 0.01$). This model has R^2 (coefficient of determination) of 0.68 which implies that 68% of the variance in innovativeness is explained by the independent variables (management support, work discretion, organisational boundaries, reward/reinforcement, time availability, locus of control, propensity to take risk and need for achievement).

Table 1: Multiple Regression Results for the Effects of Psychological factors and Organisational Factors on Innovativeness

Variables	Beta coefficients	T- value
Management Support	0.41	5.34***
Work Discretion	0.16	2.88***
Organisational Boundaries	0.38	5.72***
Reward / Reinforcement	0.32	5.24***
Time Availability	0.03	1.17
Locus of Control	0.3	5.17***
Propensity to take risk	0.34	5.54***

Need for achievement	0.15	2.14***
R ²	0.68	
Adjusted R ²	0.66	
Durbin Watson	1.92	
F value	75.05***	

*p<0.1, **p<0.05, ***p<0.01

Similarly, multiple regression analysis was carried out to investigate the relationship between organisational factors (management support, work discretion, organisational boundaries, reward/reinforcement and time availability) and individual factors (self efficiency, need for achievement and locus of control) and proactiveness. The result's details of regression analysis are shown in the Table 2.

Table 2: Multiple Regression Results for the Effects of Psychological factors and Organisational Factors on Proactiveness

Variables	Beta coefficients	T- value
Management Support	0.6	5.66***
Work Discretion	0.53	5.25***
Organisational Boundaries	0.34	4.66***
Reward / Reinforcement	0.15	2.08***
Time Availability	0.18	2.35***
Locus of Control	0.35	4.95***
Propensity to take risk	0.23	4.37***
Need for achievement	0.02	1.08
R ²	0.63	
Adjusted R ²	0.61	
Durbin Watson	2.18	
F value	71.64***	

*p<0.1, **p<0.05, ***p<0.01

Finally multiple regression analysis was carried out in order to investigate the relationship between intrapreneurship behaviour (innovativeness and proactiveness) and employee's work performance. As shown in Table 3, the tested model is significant with the F value of 80.47 at the significant level of 0.01 (p<0.01). This model has R² (coefficient of determination) of 0.52 which implies that 52% of the variance in employee's work performance is explained by the corporate entrepreneurship.

Table 3: Multiple Regression Results for the Effects of Intrapreneurship Behaviour and Performance

Variables	Beta coefficients	T- value
Innovativeness	0.34	4.48***
Proactiveness	0.19	2.98***
R ²		0.52
Adjusted R ²		0.51
Durbin Watson		2.14
F value		80.47***

*p<0.1, **p<0.05, ***p<0.01

5. DISCUSSION AND IMPLICATIONS

The findings clearly demonstrate that psychological characteristics namely locus of control, propensity to take risks and need for achievement were positively related to innovativeness whereas in terms of proactiveness, only locus of control and propensity to take risks are significant. The findings also revealed that organizational factors such as management support, rewards/ reinforcement, work discretion and organizational boundaries are positively correlated related to proactiveness whereas for innovativeness, only time availability was found to be non-significant. Despite one non-significant outcome, the study clearly indicates that, in general, psychological and organisational factors play important roles in determining intrapreneurial behaviour

The findings of this research represent some important implications for organizations in their efforts to introduce intrapreneurship culture. An insight in this research does not only aid organizations in providing them substantial competitive advantage, sustaining and improving their current status, but on the other hand, important in realising an innovative based economy propagated by the government of Malaysia. Fostering intrapreneurship by enhancing innovativeness and proactiveness, it may assist in strengthening Malaysia's economy and thus realising the "Wawasan 2020" which aims at transforming Malaysia to a high income country.

This study also aids top management in restricting the organisation that could shape intrapreneurial culture. Organizational factors such as management support, work discretion, rewards and organization boundaries have been proven to be crucial in promoting intrapreneurial culture. Such results suggest that top management to work towards better management support in encouraging the innovativeness of employees. It is vital for top management to be open for new ideas from the lower hierarchy in management. Empowerment is essential in encouraging risk taking among employees. Rightful and fair recognition and

ample work discretion are essential in stimulating innovativeness among employees. Top management can introduce a reward system which rewards innovative employees as well as ensuring that organisational boundaries issues are addressed in strategising for entrepreneurial activities within the organisation.

CONCLUSION

In short, it is acknowledged that in a dynamic and competitive business environment, the organisation as well as the country is forced to foster intrapreneurial behaviour in order to grow and sustain its competitiveness. The cultivation of intrapreneurial behaviour is a strategic step to facilitate competitive advantage, sustainability and growth of a modern corporation. The value of this study lies in its effort to alert the practitioners and policy makers on ways in which intrapreneurship can be nurtured within an organisation. Effective strategies to foster intrapreneurship are without doubt necessary to encourage innovative practices successfully.

REFERENCES

- Altucher, J. (2011). How Entrepreneurs Can Increase Productivity by 500%. Retrieved 12 June 2011, from <http://techcrunch.com/2011/12/03/how-entrepreneurs-can-increase-productivity-by-500>.
- Atkinson, A. (1998). Strategic Performance Measurement and Incentive Compensation. *European Management Journal*, 16(5), 552-561.
- Baumol, W. J. (1986). Entrepreneurship and a Century of Growth, *Journal of Business Venturing*, 1(2), 141-145.
- Bhardwarj, B. R., Sushil, and Momaya, K. (2007). Corporate entrepreneurship: application of moderator method. *Singapore Management Review*, 29(1), 47-58.
- Burgelman, R. A. (1984). Designs for Corporate Entrepreneurship. *California Management Review*, 26, 154-166.
- Becker, T. E., Billings, R. S., Eveleth, D. M., and Gilbert, N. L. (1996). Foci and Bases of Employee Commitment: Implications for Job Performance. *Academy of Management Journal*, 39(2), 464-482.
- Belanger, F. (1999). Workers' Propensity to Telecommute: An Empirical Study. *Information & Management*, 35, 139-153.

- De Jong, J. (2007). Individual innovation: The connection between leadership and employees' innovative work behaviour, Unpublished Phd Thesis, Zoetermeer: EIM.
- De Jong, J. and Wennekers, S. (2008). Intrapreneurship: conceptualizing entrepreneurial employee behaviour. Scales Research Reports H200802, EIM Business and Policy Research.
- Ergun, E., Bulut, C., Alpan, L., and Çakar, N. D. (2004). Connecting The Link Between Corporate Entrepreneurship And Innovative Performance, Global Business and Technology Association Annual Conference Proceedings Book, pp.259-265, July, Cape Town.
- Foss, K. and Foss, N. J. (2001). Assets, Attributes, and Ownership. *International Journal of the Economics of Business*, 8, 19-37.
- Ferreira, J. (2002). Corporate entrepreneurship. A strategic and structural perspective. In proceedings of the ICSB 2002, 47th world conference. San Juan. Puerto Rico. Retrieved 2 April 2011, Retrieved from <http://ideas.repec.org/p/wpa/wwwpio/0506008.html>.
- Fritscher, L. (2009). Positive Punishment. Retrieved 21 June 2011, from <http://phobias.about.com/od/glossary/g/pospunish.htm>.
- Gilbertson, D. (2002). *Public service innovation concepts*. Innovative Processes Ltd.
- Hage, J. T. (1999). Organizational innovation and organizational change. *Annual Review Sociology*, 25(7), 597-622.
- Harter, J. K., Schmidt, F. L., and Keyes, C. L. M. (2003). Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies, *Flourishing: Positive Psychology and the Life Well-Lived* (pp. 205–24). Washington, DC: American Psychological Association.
- Hayton, J. C. and Kelly, D. (2006). A Competency-Based Framework for Promoting Corporate Entrepreneurship. *Human Resource Management*, 45(3), 407-427.
- Hoffman, C. C., Nathan, B. R. and Holden, L. M. (1991). A comparison of validation criteria: objective versus subjective performance measures and self- versus supervisor ratings. *Personnel Psychology*, 44, 601-19.

- Holt, D. T., Rutherford, W. M., and Chohessy. G. R. (2007). Corporate entrepreneurship: an empirical look at individual characteristics, context and process. *Journal of Leadership & Organizational*, Vol. 13(4), 40-54.
- Janssen, O. (2001). Fairness Perceptions as a Moderator in the Curvilinear Relationships between Job Demands, and Job Performance and Job Satisfaction. *Academy of Management Journal*, 44(5), 1039-1050.
- Jackson, S. E. and Schuler, R. S. (2002). Managing individual performance: An individual perspective. In: S. Sonnentag (ed.): Psychological management of individual performance. New York: John Wiley and Sons: 371-390.
- Jong, J. D & Wennekers, S. (2008). Intrapreneurship: Conceptualizing entrepreneurial employee behaviour. Scientific Analysis of Entrepreneurship and SMEs, Zoetermeer.
- Kuratko, D. F., Ireland, R. D., Covin, J. G., and Hornsby, J. S. (2005). A model of middle-level manager's entrepreneurial behavior. *Entrepreneurship Theory and Practice*, 29(6), 699-716.
- Kuratko, D. F., Montagno, R. V., & Hornsby, J. S. (1990). Developing an intrapreneurial assessment instrument for an effective corporate entrepreneurial environment. *Strategic Management Journal*, 11, 49-58.
- Lawson, R. and Watson Jr, L. S. (1963). Learning in the rat (*rattus norvegicus*) under positive vs. Negative reinforcement with incentive conditions controlled. *The Ohio Journal of Science*, 63(2), 87.
- McClelland, D. C. & Burnham, D. H. (1976). Power is the great motivator. *Harvard Business Review*, 54(2), 100-110.
- Morris, M. H., Kuratko, D. F., and Covin, J. G. (2008). Corporate entrepreneurship: Entrepreneurial development within organisations 2nd Ed. Thompson South Western. London.
- National Economic Advisory. (2010). Economic Transformation Programme Report. Retrieved 9 October 2011, from <http://www.neac.gov.my/node/80>.
- Rutherford, M. W. and Holt, D. T. (2007). Corporate entrepreneurship: an empirical look at the innovativeness dimension and its antecedents. *Journal of Organisational Change Management*, Vol. 20(3), 429-446.

- Santos, F. M and Eisenhardt, K. M. (2005). Organizational boundaries and theories organization. *Organizational Science*, 16(5), 491-508.
- Selby, E. C., Shaw, E. J., and Houtz, J. C. (2005). The creative personality. *Gifted Child Quarterly*, 49(4), 300–357.
- Slevin, D. P., and Covin, J. G. (1997). Strategy formation patterns, performance, and the significance of context. *Journal of Management*, 23(2), 189
- Taveggia, T. C. and Hedley, R. A. (1976). Discretion and Work Satisfaction: A Study of British Factory Workers. *The Pacific Sociological Review*, 19(3), 351-366.
- Thornberry, N. E. (2002). Corporate entrepreneurship: teaching managers to be Entrepreneurs. *Journal of Management Development*, 22(4), 329- 344.
- Wunderer, R. (2001). Employees as “co-intrapreneurs”- A transformation concept. *Leadership and Organization*, 22(5), 193-211.
- Wong, W. K., Cheung, H. M., and Venuvinod, P. K. (2005). Individual entrepreneurial characteristics and entrepreneurial success potential. *International Journal of Innovation and Technology Management*, 3, 277-292
- World Economic Forum (2010). The Global Competitiveness Report 2010-2011. Retrieved 21 March 2011, from http://www3.weforum.org/docs/WEFGlobalCompetitivenessReport_2010-11.pdf.
- Zahra, S. (1991). Predictors and financial outcomes of corporate entrepreneurship: An explorative study. *Journal of Business Venturing*, 6, 259-285.
- Zahra, S. A., and Garvis, D. M. (2000). International corporate entrepreneurship: the moderating effect of international environmental hostility. *Journal of Business Venturing*, 15, 469–492.