

IMPACT OF HUMAN CAPITAL ON ORGANIZATIONAL PERFORMANCE A CASE OF SECURITY FORCES

K. Mahmood and S. M. Azhar

School of Business and Economics, University of Management and Technology, Lahore, Pakistan
Corresponding Author email: comd43@gmail.com

ABSTRACT: Ascribing to Knowledge based view (KBV) theory, Human Capital has been recognized as an important organizational resource and an antecedent to success in the organizations. This study in a novel setting of security forces aims to empirically understand the relationship and impact of human capital on the organizational performance of Pakistan Security Forces engaged in Low Intensity Conflicts. A cross sectional field survey was conducted. Statistical analyses revealed a positive significant relationship between human capital and organizational performance. Knowledge as sub construct of human capital was found to be strongest in its impact on organizational performance followed by skills and abilities. The research findings are likely to contribute to theory by extending the corporate research to the security forces context. From the managerial perspective, the findings give clear indications that would allow security forces to understand the importance of human capital management. The findings can be utilized for policy making decisions.

Keywords: Human Capital, Organizational Performance, Low Intensity Conflicts, Pakistan Security Forces.

(Received 8-11-14

Accepted 16-3-15)

INTRODUCTION

In the last few decades “Intellectual Capital” has emerged as an intangible resource with a rapid diffusion and widespread acceptance as organization’s primary means of creating sustainable competitive advantage ensuring continuous growth and organizational performance (Aziz and Bontis, 2010). Therefore, in the current competitive environment many organizations relate their main liabilities to intangible assets rather than tangible ones (Hsu and Fang, 2009). Intellectual capital has three primary interrelated non-financial components such as Human Capital, Structural Capital and Relational Capital (Bontis, 1998; Chang *et al.*, 2008). Human Capital (HC) encompasses competencies, skills, experiences, knowledge of an individual; preferred ability and motivation (Bozzolan *et al.*, 2003; Guerrero, 2003 and Po-Yang *et al.*, 2006). Literature provides fair amount of evidence that helps validate the vital role played by HC in the organizations as a source of innovation and strategic renewal (Webster, 2000). Higher level of financial performance of organizations is also associated with superior HC (Youndt *et al.*, 2004). It has been well established that higher levels of skills and competence are antecedent to success. A positive link is demonstrated between HC elements and economic development (Seleim *et al.*, 2007). Logically, if an individual is well educated and better trained, he is likely to secure more productivity and benefits for the organization.

Organizational performance (OP) is multidimensional in nature and is generally measured

using indicators in efficiency, financial viability such as profitability (Stewart, 2010) and effectiveness according to the organizational context. Daft (2000) and Ricardo (2001) on the other hand, visualize OP as the organization’s ability to achieve its goals and objectives through appropriate use of resources in an effective and efficient manner. Generally, the performance measurement in Security Forces is associated with training, readiness of forces and the cost effects of weapon systems (Kaufmann, 1994 and George, 1999). In operational environments, OP is mainly its effectiveness in terms of victory during wartime and operational readiness during peacetime, (Wong *et al.*, 2003). The success in combat is also weighed in terms of time, economy of effort, losses to men and material and level of damage to the adversary.

Nonetheless, there is a lack of significant literature and academic interest with regards to performance measurement in security forces due to a sense of secrecy contiguous to the security forces products and services (Catusus and Gronlund, 2005). This peculiar context poses difficulty in data collection and publication of information. However, studies have explored approaches that use goals attainment and competing values analysis, as it involves drastically differing situational requirements presented both in peace and war (Phillips and Wong, 1990 and Hunt and Phillips, 1991). North Atlantic Treaty Organization (NATO) has also developed a performance measurement methodology, named Effects-Based Approach to Operations (EBAO) which focuses on the proper use of resources for achievement of goals and presents a

complete picture of the operational environment and the assessment of the efficacy of operations. This results oriented approach, is being applied during operations in the context of security forces (Barton, 2004; Barzelay; Mol and Beeres, 2005 and Thompson, 2006).

Currently a fair degree of research has been conducted to investigate the relationship between HC and OP. However, there is a great void to study this relationship in the context of security forces because the security forces as a domain lack research focus due to the sense of secrecy that surrounds them and the nature of operations in which they are involved. Nonetheless, a matching response and success during combat is highly dependent on professional competence of the commanders because the current and future warfare will be highly knowledge intensive and performance differences will be attributed to knowledge asymmetry (Thomas *et al.*, 2001) that underscores the HC aspect of intellectual capital in the security forces. Pakistan, due to its geo-strategic location and emerging power centers in the region is confronted with a complex security milieu. Resultantly, Pakistan Security Forces (PSF) are engaged in Low Intensity Conflicts (LIC) for more than a decade.

With this backdrop, the study aims to understand and empirically examine the applicability of the HC

concept in the context of PSF as an institution engaged in LIC and in a further exposition of the broad objective, the study aims to identify, among the factors of HC which has the strongest impact on the OP. While we acknowledge that general literature suggests a positive correlation between HC and OP, yet no empirical research can be cited, which explicitly contextualizes this type of study within the ambit of security forces of any country.

MATERIAL AND METHODS

Literature validated a positive relationship between HC and OP and association of a superior organizational performance with the presence of superior HC (Youndt *et al.*, 2004 and Bontis *et al.*, 2007). Given the objective of the research in terms of understanding the relationship between HC (knowledge, skills and abilities) and OP (operational excellence, productivity, comparative valuation) within the context of security forces as well as identified which of the factor of HC (knowledge, skills and abilities) were more significant in terms of OP, Schematically research model is presented below (Figure 1).

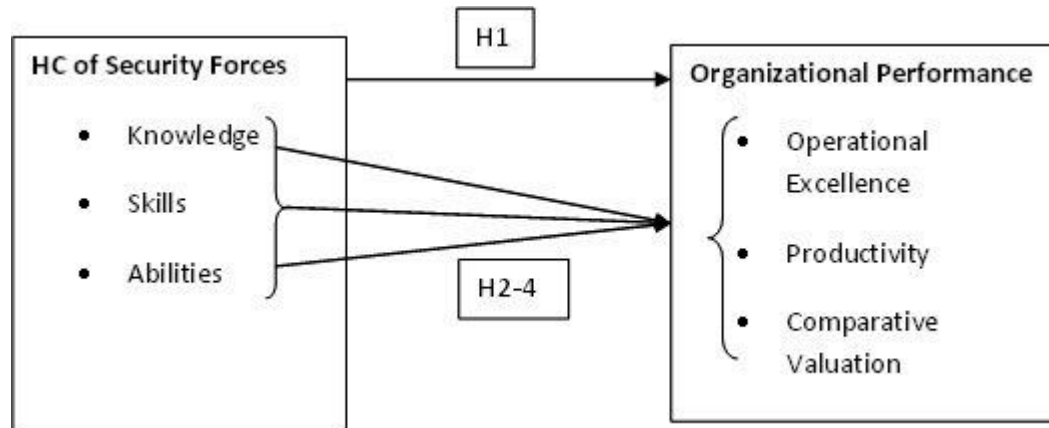


Figure 1: Schematic representation of Research Model

Hypotheses: Based on the conceptual model and the relationship between various variables of the study, following hypotheses were formulated;

H1: Human capital of officers is positively correlated to organizational performance of Pakistan Security Forces.

H2: Knowledge of officers has a stronger impact on the organizational performance of Pakistan Security Forces

H3: Skills of officers have a more stronger impact on the organizational performance of Pakistan Security Forces

H4: Abilities of officers have a more stronger impact on the organizational performance of Pakistan Security Forces

Research Methodology: Relationship between HC and OP was being empirically tested in various organizations using a descriptive/explanatory method of inquiry (Seleim *et al.*, 2007; Sharabati *et al.*, 2010 and Seleim and Khalil, 2011). Hence, the study followed descriptive and explanatory research methodology with a cross sectional research design utilizing survey questionnaire for collection of data. The population of interest was PSF officers with a sample size of 300. The sampling frame for this study was those officers, who had actively

participated in LIC and were approached using snowball sampling method.

Research Instrument: The instrument used in the research was originally developed by Bontis (1998) comprising 20 items for HC and 10 items for OP. Since then the instrument has been tested and validated in various contexts. In a recent study conducted by (Seleim and Khalil, 2011) the instrument has been modified into 14 items in generalized metrics. For the present research the instrument used was modified to suit the context of security forces. In order to ensure the internal consistency of the research tool, the modified version was presented to three academicians from the strategic management faculty and three senior professionals from security forces. Face validity was also checked by the experts and senior security forces officers through vetting the instrument, whose language had been modified to suit the context. All items were measured using a Likert scale anchored with 1- strongly disagree to 5- strongly agree. Before undertaking the main study, a pilot study comprising 35 respondents was conducted, that validated the internal consistency and reliability of the instrument. Results are presented below in Table - 1.

Table-1: Showing Reliability Statistics – Pilot Study

	Cronbach's Alpha	No of Items
Human Capital		
Knowledge	0.77	5
Skills	0.77	4
Abilities	0.76	5
Overall	0.88	14
Org. Performance		
Operational Excellence	0.73	3
Productivity	0.72	3
Comparative Valuation	0.76	2
Overall	0.86	8

RESULTS AND DISCUSSION

Demographic Profile: Questionnaire was given to 300 Pakistan Security Forces officers. 243 (81%) were received back, of which 201 (67%) were considered usable for the study. Tables 2-4 reflect the respondents' characteristics i.e. age, length of service and experience in LIC Zone.

Respondents (63 %) were between 31 to 40 years of age, 34% were having 16-20 years of service and 57% having two years of experience in LIC Zone indicating that majority of the respondents were quite mature in terms of age, experience and length of service.

Normality of Data and Reliability Analysis: Data was evaluated through SPSS for normality with skewness as -.141 and kurtosis of independent and dependent variables

as -.53 and -.75 respectively. The Cronbach's alpha (Table - 5) checked the internal consistency and inter-item correlation in each variable of the questionnaire.

Table-2: Showing Respondent's Age

Age	Frequency	percentage	Cumulative percentage
20 - 25 years	23	11%	11%
26 – 30 years	47	23%	34%
31 – 35 years	57	29%	63%
36 - 40 years	74	37%	100%
Total	201		

Table – 3: Showing: Respondent's Length of Service

Service	Frequency	Percentage	Cumulative Percentage
Up to 5 years	31	15	15
6 -10 years	49	22	37
11 - 15 years	53	29	66
16 - 20 years	67	34	100
Total	201		

Table-4: Showing Respondents Experience in Low Intensity Conflict Zone

Experience	Frequency	percentage	Cumulative percentage
Up to 1 year	57	28	28
Up to 2 years	114	57	85
Up to 3 years	25	13	98
Up to 4 years	4	2	100
Total	201		

Table-5: Showing Reliability Statistics

	Cronbach's Alpha	No of Items
Human Capital		
Knowledge	0.773	5
Skills	0.77	4
Abilities	0.76	5
Overall	0.83	14
Org. Performance		
Operational Excellence	0.73	3
Productivity	0.72	3
Comparative Valuation	0.76	2
Overall	0.83	8

Establishing Relationship amongst Variables:

Correlation coefficient provided a quantitative measure of the strength of the linear relationship between independent and dependent variables which in this study was 0.750** with p value 0.000 (** Correlation was

significant at the 0.01 level (2-tailed)) clearly reflecting that HC was significantly related to OP.

Scatter plot represented below in Fig 2 indicated a significant positive and strong linear relationship between HC of officers and OP.

H1: Human capital of officers is positively related to organizational performance of Pakistan Security Forces

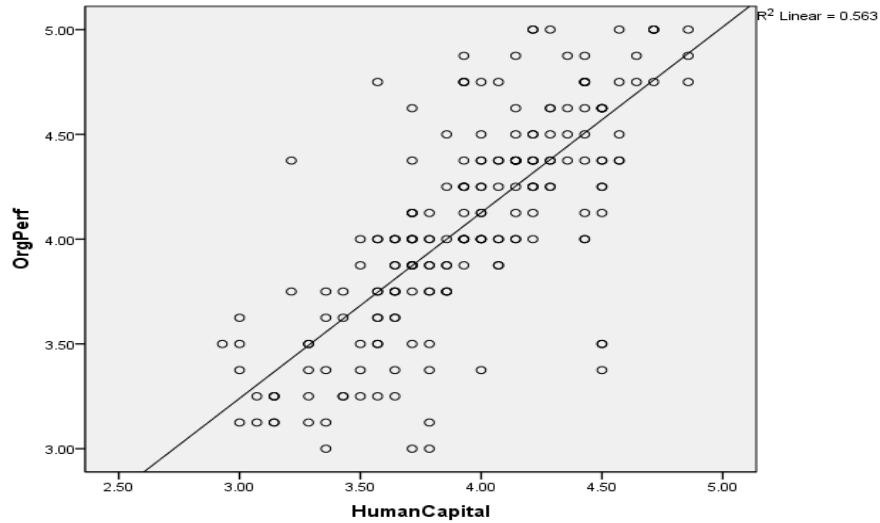


Figure 2 Showing Scatter Plot- HC and OP

In order to ascertain the relationship and measure the impact of HC of officers on the OP of PSF regression results are reported in Table (6).

Table-6: Showing Regression Statistics

	Model Summary			Std 'B'	Coefficients		Multicollinearity	
	R	Adjusted R ²	Sig		t	Sig	D-W	VIF
HC	0.750	0.561	0.000	0.750	16.02	0.000	1.84	1.00

a. Predictors: (Constant), Human Capital

b. Dependent Variable: Org Performance

Adjusted R² value (0.561) indicated that 56.10% of the variation in the OP of PSF was explained by HC i.e. knowledge, skills and abilities of officers. Durbin Watson value (1.840) closer to ideal value of 2 indicates no autocorrelation and VIF as 1.00 having no multicollinearity issue. P value: 0.00 highlights the model's significance.

The value of standardized coefficient (B) reflected in the same table predicted that 1 unit increase in HC of officers as an independent variable will result in the improvement in OP of 0.750 and this was significant

at "p" value of 0.000. Thus the relationship and impact both practically and statistically were highly significant.

The above data provided significant support to hypothesis 1. The results are in line with the literature which has validated HC as the core component of intellectual of capital and significant predictor of OP. The other three hypotheses were further tested to identify among the factors (Knowledge, Skills and Abilities) of HC as to which factor had strongest impact on the OP of PSF. The results of multiple regression are provided in Table – 7.

Table-7: Showing Regression Statistics

	Model Summary			Std 'B'	Coefficients		Multicollinearity	
	R	Adjusted R ²	Sig		T	Sig	D-W	VIF
	0.762	0.574	0.000				1.80	1.000
Knowledge				0.466	8.116	.000		1.113
Skills				0.315	6.472	.000		1.452
Abilities				0.202	3.630	.000		1.551

a. Predictors: (Constant), Knowledge, Skills, Abilities

b. Dependent Variable: Org Performance

The results clearly indicated that all the factors of HC had varying level of practical impact on OP of PSF and all were statistically highly significant. However, knowledge was the most significant amongst the factors that had an impact on performance outcomes followed by skills and lastly the abilities of officers as conceptualized in this research.

The research results indicated a positive strong relationship between HC and OP of PSF in support of hypothesis. The research model incorporated three factors i.e. knowledge, skills and abilities of officers which explained the HC construct. Seleim *et al.*, (2007) and Youndt *et.al*, (2004) indicated an association and positive linkage between HC and higher level of organizational performance and development. This evidence of corporate sector had empirically been tested in this study in the operational context of security forces where performance and development due to HC was replicated with accomplishment of objectives according to the context.

According to Brauner and Becker (2006) knowledge was considered to be the experiences through perception or generated through thinking and reasoning, insights, values and contextual information which needed to be efficiently managed for utmost results. Sequel to significance of knowledge many researchers have identified KM being a key factor in ensuring organizational effectiveness, success and benefits in terms of improved efficiency, enhanced competency and better decision-making (Gan *et al.*, 2006; Mazlan and Ahmad, 2006). This knowledge embedded as part of HC plays an important role in achieving organizational goals and a significant antecedent of organizational performance (Nevo and Chan, 2007). Therefore, in the wake of knowledge intensive operational environment, officers with more knowledge will make the performance differences and it becomes imperative for the security forces to formalize and institutionalize knowledge strategy to equip their HC in order to improve operational readiness, malleability, integration, synchronization and synergy with all the fighting echelons for the desired outcome.

The technological advancement in weapons and equipment require a high level of HC in its entire facets i.e. knowledge (professional, technical, specialized as well as knowledge about the adversary), skills (interpersonal, motivational, analytical and technical skills) and abilities to include personal attributes. The results of earlier research revealed that KM and intellectual capital (HC being crucial component) were vital sources of competitive advantage and OP, therefore researchers suggested institutionalizing KM to accumulate all components of intellectual capital particularly HC for ultimate organizational effectiveness (Curado, 2008 and Shih *et al.*, 2010).

In a study, Sveiby (2001) highlighted that HC comprised of skills and abilities of the employees in an organization and the success depended more on intangible assets like HC rather than conventional factors. Similarly, Yen *et al.*, (2008) validated skillfulness as one of the fundamental characteristics for HC along with proficiency in their responsibilities and tasks leading to success. This research results indicated that all the factors of HC have significant relationships with OP but with varying values. Knowledge of officers had strongest impact on OP of PSF followed by skills and lastly the abilities of officers. Current and future battlefield environments underscore that performance differences will be attributed to knowledge asymmetry, may it be the professional, technical or knowledge about the adversary. Knowledge as a key factor in achieving and maintaining competitive advantages leading to success and resulting into emergence of a new competitive dynamic has been supported by many researchers (Nevo and Chan, 2007 and Diaz-Diaz *et al.*, 2008).

This research outcome is in harmony with the findings of Seleim *et al.*, (2007) who indicated that organizations invest for development of HC because individuals, organizations, and nations have recognized that high levels of skills and competence were essential for future security and success. Being cognizant of the fact, training and development in security forces has always attained a high priority. Much more than any other organization, security forces invest heavily in terms of time and resources to develop their HC.

Implications of the Research: Being the first study of its kind in the context of PSF, it was strongly felt that its results and findings are likely to contribute to the theoretical debate of understanding relationship between HC and the OP in the domestic context. It will help to explain and describe various factors that have not been researched at all in PSF. Knowledge, recognized as a critical organizational resource in a competitive and dynamic economy of corporate sector has also been empirically validated in this study in the context of security forces. This underlines the need for policy makers in the domestic context to formalize KM strategy and HC management as already in vogue in developed countries. The results of the research are presumably more relevant to the top hierarchy to understand the importance of HC in the context of security forces. This may require to strategically re-aligning with the mission and vision of security forces.

Conclusion: Research results in a novel setting of PSF are of significant importance and can positively contribute to formulation/implementation KM strategy and HC Management in the PSF. While being specific in domestic context, the complex security milieu demands higher levels of operational readiness with superior HC for performance differences during combat. Knowledge

has been identified to have strongest impact on the OP; therefore this aspect needs greater attention and awareness by the leaders and, it will be prudent to conduct a holistic gap analysis by critically analyzing the knowledge aspects of security forces by comparing the existing state, current performance and desired performance. The differences will help in identification of the areas to be improved thus leading to a focused strategy so that goals achievement is facilitated.

REFERENCES

- Aziz, A.S and N.Bontis. Intellectual Capital and Business Performance in the Pharmaceutical Sector of Jordan. *Management Decision.*, 48(1):105-131 (2010).
- Barton, A. How to Profit from Defense: A study in the misapplication of business accounting to the public sector in Australia. *Financial Accountability & Management.*, 20(3): 281-304 (2004).
- Barzelay, M. and F.Thompson. Responsibility Budgeting at the Air Force Material Comman. *Public Administration Review.*, 66(1): 127-138 (2006).
- Bontis, N. Intellectual capital: an exploratory study that develops measures and models. *Management Decision.*, 36: 63-76 (1998).
- Bontis,N., A. Seleim. and A. Ashour. Human capital and organizational performance: a study of Egyptian software companies. *Management Decision* ., 45(4): 789-801 (2007).
- Brauner, E. and A. Becker. Beyond knowledge sharing: the management of transactive knowledge systems. *Knowledge and Process Management.*, 13(1):62-71(2006)
- Bozzolan, S., F.Francesco and R. Federica. Italian Annual intellectual Capital Disclosure. An Empirical Analysis. *Journal of Intellectual Capital.*, 4(4): 543-558 (2003).
- Catasús, B. and A. Grönlund. More Peace for Less Money: measurement and accountability in the Swedish armed forces. *Financial Accountability & Management.*, 21 (4): 467-484 (2005).
- Chang, S-C., S.S, Chen and J.H, Lai. The effect of alliance experience and intellectual capital on the value creation of international strategic alliances. *Omega* ., 36:(298 – 316 (2008).
- Curado, C. Perceptions of knowledge management and intellectual capital in the banking industry. *Journal of Knowledge Management.*, 12(3): 141-55(2008).
- Daft,R.L. *Organization Theory and Design.* (7th ed.) South-Western College Publishing, U.S.A. (2000).
- Díaz, N., Díaz. A, I. and P. De Saá-Pérez. The Effect of Technological Knowledge Assets on Performance: The Innovation Choice in Spanish Firms. *Research Policy.*, 37: 1515-1529 (2008).
- Gan,G., C.Ryan and R. Gururajan. Knowledge management and the organizational performance of Multimedia Super Corridor status companies in Malaysia. Paper presented at the Int. Borneo Bus. Conf. Kuching, Sarawak, Malaysia (2006).
- George, J. Is readiness Overrated? Implications for a Tiered Readiness Force Structure. *Policy Analysis.*, 342: 1-22 (1999).
- Guerrero, I. How do firms measure their intellectual capital? Defining an empirical model based on firm practices. *International journal of management and decision making.*, 4(2/3): 178-193 (2003)
- Hsu, Y.H. and W.Fang, Intellectual Capital and New Product Development Performance: The Mediating Role of Organizational Learning Capability. *Technological Forecasting and Social Change.* 76: 664-677 (2009).
- Hunt, J. G., and R.L. Phillips. Leadership in battle and garrison: A framework for understanding the differences and preparing for both”. In R. Gal, & D. Mangelsdorff (Eds.), *Handbook of military psychology.* Chichester, UK. Wiley., 411–429 (1991).
- Kaufman, W. Hollow Forces? Current issues of U.S. military readiness and effectiveness. *The Brookings Review.*, 12(4): 24-29 (1994).
- Mazlan I, RS. Ahmad. The influence of knowledge management and leveraging of intellectual capital on the organization performance: a case study of Telekom Malaysia. *Int. Conf. Kuala Lumpur, Malaysia* (2006).
- Mol, N. and R. Beeres. Performance management in a setting of deficient output controls. *International Journal of Productivity and Performance Management.*, 54(7) 533- 550 (2005).
- Nevo, D. and Y. E. Chan. A Delphi study of knowledge management systems: Scope and requirements., *Information & Management.*,44: 583–597 (2007).
- Phillips, R. L.and L. Wong. An integrated model of military unit effectiveness. *Proceedings of the Southern Management Association, Orlando, FL* (1990).
- Po-Yang, H. Hsuing. Intellectual Capital: An Empirical study of ITRI, *Journal of Technological Forecasting and Social Change.*, 73: 886- 902 (2006).
- Ricardo,R., and D. Wade. *Corporate Performance Management: How to Build a Better Organization through Measurement Driven Strategies Alignment.* Butterworth Heinemann. (2001)

- Seleim, A.A.S , O.E.M. Khalil. Understanding the knowledge management-intellectual capital relationship: a two-way analysis. *Journal of Intellectual Capital.* 12(4): 586 – 614 (2011)
- Seleim, A.A.S, A. Ashour and N. Bontis. Human capital and organizational performance: a study of Egyptian software companies. *Management Decision.* 45(4): 789 – 801 (2007).
- Seleim, A.A.S , O.E.M. Khalil. Knowledge management and organizational performance in the Egyptian software firms. *International Journal of Knowledge Management.*3(4): 37-66 (2007).
- Sharabati, A.A., S.N. Jawad and N. Bontis. Intellectual Capital and Business Performance in the pharmaceutical sector of Jordan. *Journal of Intellectual Capital and Business Performance.*, 48(1): 105-131 (2010).
- Shih, K. H, Chnag, J. Ch. And B. Assessing knowledge creation and intellectual capital in banking industry. *Journal of Intellectual Capital.*, 11(1): 74-89 (2010).
- Stewart D. Growing the Corporate Culture obtained from <https://www.wachovia.com/foundation/v/index.jsp?vnextoid=ab411f07760aa110VgnVCM1000004b0d1872 RCRD & vnextfmt=default> on July 9th (2010)
- Sveiby, K.E. A knowledge-based theory of the firm to guide in strategy formulation *Journal of Intellectual Capital.*, 2(4): 344 – 358 (2001).
- Thomas. J.B, S.W. Sussman and J. C. Henderson. Understanding "Strategic Learning": Linking Organizational Learning, Knowledge Management, and Sense making. *Organization Science.*, 12(3): 331-345 (2001).
- Webster, E. The growth of enterprise intangible investment in Australia. *Information Economics and Policy.*, 12(I), 1-25 (2000).
- Wong, L., Bliese, P., and D. McGurk. Military leadership: A context specific review. *The Leadership Quarterly.*, 14, 657–692 (2003).
- Yen, Yu-Fang, Wang, Hsing-Kuo, Tsai , Cheng, Lin and , Yu-Chieh. An empirical research on the relationship between human capital and innovative capability: A study on Taiwan's commercial banks. *Total Quality Management & Business Excellence.*, 19(11): 1189-1205 (2008).
- Youndt, M.A , M. Subramaniam and S.A. Snell. Intellectual capital profiles: an examination of investments and returns. *Journal of Management Studies.*, 41(2): 335-361 (2004).