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Structural Equation Model of Variables Affecting Turnover Intentions on Bangkok's Information Technology Career Professionals

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ABSTRACT

This study concerns the modeling and analysis of Human Resource Management (HRM) and job satisfaction variables affecting Bangkok's information technology career professional's turnover intentions using both quantitative and qualitative research methods. From the trend of the growing information technology business in Thailand and as a result of human resource management, enterprise information technology business in Thailand has grown immensely. Quantitative research was conducted with 220 Bangkok career information technology professionals by the use of questionnaires and qualitative data was obtained from in-depth interviews of employees and management 10 senior level career professionals in the information technology business using simple random sampling (Purposive sampling) while using Partial Least Square (PLS-Graph) software to apply Structural Equations Modeling (SEM) analysis. Results showed the hypotheses had a significance level of $p \leq 0.01$, having a significant influence on human resource management and job satisfaction. Findings concluded that if an organization has good human resource management systems, the resultant factors will result in IT career professionals having greater work satisfaction resulting in higher retention rates amongst Bangkok IT professionals.

Key words: Human resource management, organizational commitment, job satisfaction, turnover intention

INTRODUCTION

Changes in technology have led to many societal changes. In particular, businesses involved in international trade have had to adjust their processes and models to better cope with this fast paced environment. Organizations involved in manufacturing along with their related administration, distribution and sales processes have been particularly exposed to these changes and have had to refocus their resources and processes to keep pace with this highly competitive global environment.

Human resource management is a key aspect of the business process and needs to adapt and become more flexible to keep up with the pace of these trends in globalization. Therefore, human resource departments need to develop programs and policies that better qualify the intellectual capital, resources and labor within their organizations, so they can better align these resources with current and future globalized world markets, including the ever widening labor pools and manufacturing markets.

As investors continue to gravitate to less expensive labor sources, labor demographics in countries such as Thailand are constantly changing. However, with the ever expanding global and regional trade alliances such as the ASEAN:AEC, synchronization of processes is leading to better and more efficient use of these resources. Capital flows and investment incentives can lead to development and implementation of advanced technologies which in turn leads to both higher production and quality at a lower cost.

Multi-Sided Platforms (MSPs) is a concept from the strategy field and has been developed under related and complementary concepts such as Two/Multi-Sided Markets/Networks/Platforms, Platform-Mediated Networks and Networked Businesses.

In 2006, sixty of the world's 100 largest companies (Forbes 2000 ranked by market value) earned more than 50% of their revenue from MSPs, as firms in electrical utilities, financial services, health care services/health maintenance organizations, media, semiconductors, software and services, technology hardware, telecommunications and transportation services industries (Eisenmann *et al.*, 2006).

The resulting flow of capital and high technology in both a skilled and unskilled manpower environment has a multi-sided or multi-dimensional aspect. The free enterprise system and current world situations relating to fair trade rules and tariff and tax reduction across borders is tightly linked to import/export abilities. The result is a worldwide employment mix in high technology areas such as aviation and industrial production where manpower and skills can be brought to bear with their labor force having the ability to both learn and use new technology.

Moreover, communication and telecommunications infrastructure further causes movement amongst both labor and production. Multinationals seek out areas in which to invest and in which they can gain higher productivity as well as a lower cost. This often results in the implementation of more efficient and more productive methods by the use of both contracting and sub-contracting to external sources (outsourcing). This, then results in labor seeking to move to where wages are potentially higher causing challenges within human resource development.

Thus, organizational leaders and human resource professionals must understand this dynamic environment in the era of globalization. Competition is intense and plays an important role in the business world. If the leaders do not understand the business impact of human resource management, they may have to revert to traditional forms of business organizations which in turn will result in the further erosion of business.

In an interview with the Charoen Pokphand Group CFO Adirek Sripratak, he suggested that the personnel in most organizations today are from the generation Y age group which is more integrated with the baby boomer executives and middle managers in the generation X age group. Age and gender also is part of the diversity and is easily seen in the organization. If you can manage such diversity, it will lead to better creativity and innovation that can enhance the organization's competitiveness and sustainable growth.

Diversity is not viewed as a difference in cultural or sexual differences, but instead the wide range of needs involved that HR needs to manage. So, to start promoting acceptance and respect for individual differences in the regulatory environment of the office, managers must not hinder or discriminate but instead should create a positive atmosphere in the workplace. Open spaces should be allowed in which individuals can sit and chat or confer on various issues. This, then includes the necessity for the provisioning of the necessary facilities in which staff can have the freedom to express their ideas without interruption from the hierarchy within the organization. This will then inspire the creation of new ideas and innovation.

There is also research that shows that organizations tend to be more successful if they admit larger proportions of women to become executive officers. This allows better decisions in marketing strategies as women are more likely to understand the behavior of consumers better than men. Apart from sex and age, executives need to understand the multicultural diversity due to the nature of free markets which oftentimes has the manufacturing base overseas.

Surendun Ramanathan senior consultant, Hewitt Associates (Thailand) Co., Ltd., a human resources consulting firm, gave the results of their poll on upgrading the salaries of organizations and staff turnover problems in the industry in 2010 and outlook for 2011.

The number of participating companies surveyed included more than 189 organizations spread throughout various businesses.

They found more than 26% indicated that business was better than ever and turnover rates of employees in 2010 were at an average of 8% which was below the previous year's 9.3%. However, in the retailer group, there was a higher employee turnover rate at 24.9%, followed by the financial services businesses at 12.2% and technology/IT groups at 12%.

According to the survey, metro area executives focused on reducing the turnover rate by providing opportunities for career advancement rather than higher pay. According to the interviewed employees, their resignation was in part or due to the following seven reasons:

- Job or workplace was not as expected
- Mismatch between job and person
- Too little teaching and feedback
- Too few growth and advancement opportunities
- Feeling devalued and unrecognized
- Stress from work and work-life imbalance
- Loss of trust and confidence in senior leaders (Branham, 2005)

This is consistent with the findings of Pricewaterhouse Coopers (PwC) which interviewed store employees who voluntarily resigned from the organization why they quit their jobs and found that the most important factor is the lack of growth opportunities followed by supervisors negligence and conflicts with supervisors as well as compensation and not enough challenges (Pricewaterhouse Coopers, 2008).

After a review of the literature and due to the reasons mentioned above, the researcher who is an executive in the information technology business in Thailand is interested in understanding human resource management and job satisfaction and organizational commitment that affect the intended staff turnover in the information technology business. Additionally, this study hopes to find ways to reduce staff turnover by the use of organizational innovation in organizations which helps management to identify key factors to strengthen and gain a competitive edge in the information technology business in Thailand.

CONCEPTUAL DEVELOPMENT

Human resource management: Human resource management uses aggressive strategies that are related to the ongoing management of the most valuable resources in the organization. The individuals who work together as teams as well as individually to achieve the goals of a business (Armstrong, 2006).

Strategic human resource management is rapidly changing with time and circumstances and therefore, needs to be developed and improved all the time. For this reason, different business types with various sizes need a department or agency to act in the management of human resources, particularly where the size of the department or agency is concerned.

At present, management and human resource development are increasingly more important in organizations, both in the private sector and in the public sector or government itself. Because changes occur within organizations and involve people, human resources is crucial to their development.

Thus, it can be said that the indicators of sustainable success of an organization is "the quality of people" in the organization. Before organizations became aware of the importance of human resource management, workers had only had been visible as just a means or tool for production.

However, the current 'worker' has been redefined as a development priority and renamed as "Human Resources" departments or agencies. Responsibilities for the role of individuals in organizations are changing. "Management and administration" has evolved to "strategic human resource management" which was once focused only on immediate changes whereas today, an emerging strategy has developed to build long-term and continuing strategies.

Human resource management consists of (1) Recruitment and selection, (2) Training and development, (3) Compensation and benefits and (4) Evaluation and supervision (Som, 2008; Sani, 2012).

A study by Abeysekera (2007) empirically evaluated six Human Resource (HR) practices which included realistic job information, job analysis, work family balance, career development, compensation and supervisor support and their likely impact on the Marketing Executive Intention to Leave (MEIL) in the Sri Lankan leasing companies. The study found that if you have strong human resource management practices, you can keep employees satisfied and reduces the resignation and turnover by organizational executives.

This corresponds with the study by Arumugam and Mojtahedzadeh (2011) concerning human resource management practices in the Malaysian industries and the many factors which are effective in improving performance. They are employee participation, training, job description, career planning system, compensation system, selection system and performance appraisal system. The job satisfaction plays a fundamental role in determining the performance.

This additionally corresponds with the Mudor and Tooksoon (2011) study which developed a conceptual framework about the relationship between human resource management and work and retirement satisfaction. The results showed that the human resource management has a positive relationship with job satisfaction and has a significant negative effect on the employee resignation. Results of practices in human resource management and job satisfaction predicted turnover of employees in the future.

More recent empirical study on HRM practices (Lee and Lee, 2007) uncovered six underlying HRM practices on business performance, namely training and development, teamwork, compensation/incentives, HR planning, performance appraisal and employee security which help improve a firms' business performance including employee's productivity, product quality and firm's flexibility. It can be concluded that human resource management has had a positive influence on the job satisfaction of employees (Mudor and Tooksoon, 2011; Kuo, 2011; Katou, 2012).

Job satisfaction: Satisfaction is a result from which a person feels that their task has been accomplished. Also, it is dependent on being interested in the values and standards of the job.

Factors that create job satisfaction and job success are the acceptance of the nature of the job (Gordon *et al.*, 1996; Sarhingrangsri and Polsarum, 2009; Poonkrajang, 2009).

Research by Pungbankhoah (2012) found that satisfaction in work correlated with participation, communication and centralization. The study by Robbins *et al.* (1997) said that job satisfaction is an individual's general attitude toward his work with various jobs that require interaction between co-workers and bosses. Factors conducive to job satisfaction include policy and organization, salary, relationships and control between supervisors and subordinates and working conditions, as well as feelings and emotions that gives the worker job satisfaction. This also includes achievement in the workplace as well as recognition of the social nature of the job responsibilities and career advancement opportunities (Van Dersal, 1968).

Studies by Chaichalermpong and Kessomboon (2007) found that if an employee is satisfied in the workplace, employees will not resign from the organization. Work satisfaction has to have negative influences to influence on the intention to leave the job (Vandenberg and Lance, 1992; Lumley *et al.*, 2011).

After a literature review and development of the above concepts, the following hypotheses were developed as depicted in the Fig. 1 conceptual framework below:

- **H1:** Human Resources Management (HRM) influences job satisfaction
- **H2:** Human Resources Management (HRM) influences turnover intention
- **H3:** Job Satisfaction influences turnover intention

Methodology: This study was conducted from a sample population of career professionals and information technology staff using both quantitative and qualitative research.

Data collection: Bangkok information technology career professionals were queried using quantitative research methods of which 220 responded (Hair *et al.*, 2006).

Questionnaire design: Questionnaires were constructed as a tool to measure concept definition and practice. This study first conducted Confirmatory Factor Analysis (CFA) and subsequently reliability analysis to measure Cronbach's alphas for this scale items to ensure internal consistency. Multi-item measures were developed based on Cronbach's alpha >0.68. This study then calculated Cronbach's alphas for each construct. As shown, the reliability measure ranged from 0.755-0.918 (Table 2). This is considered highly reliable. Items lower than 0.50 were cut off from the research.

The responses to the questions capturing focal constructs used a seven-point Likert scale (rating statements 1-7, 1 = strongly disagree and 7 = strongly agree). Qualitative research was conducted with in-depth interviews of 10 senior-level executives.

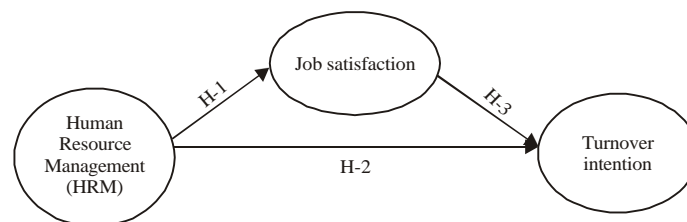


Fig. 1: Conceptual framework

Measurement

Dependent variable: Turnover intention analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1970) which were developed and constructed from scales enabling the measurement of freedom to resign, alternative opportunities and absence and tardy behavior (Scott *et al.*, 2003; Yue *et al.*, 2011; Lewis, 2008).

Independent variables: Human Resources Management (HRM) analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1970) which were developed and constructed from scales enabling the measurement of recruitment/hiring, development/training, wages/benefits and evaluation/supervision (Katou, 2012; Lee and Lee, 2007).

Job satisfaction analysis used a measurement instrument or questionnaires utilizing a 7-Point Likert Scale (Likert,1970) which were developed and constructed from scales enabling the measurement of job satisfaction and off the job satisfaction (Lumley *et al.*, 2011; Inkum *et al.*, 2009; Pungnirund, 2007).

RESULTS AND ANALYSIS

Quantitative research was conducted by using the Partial Least Squares (PLS) statistical method and hypothesis testing with PLS-graph software (Chin, 2001) which analyzes the display and model structure associated with the observed manifest variables with latent variables.

Verification of the accuracy and reliability of the measurements multi-item measures were developed based on Cronbach's alpha. This study then calculated Cronbach's alphas for each construct. As shown, the reliability measured ranged from 0.775-0.898 which is considered to have high reliability.

The study uses a loading value from 0.707 and a significant level of confidence at 95 percentage (t-stat>1.96), showing which factors affect organizational performance (Lauro *et al.*, 2005; Henseler and Fassott, 2010; Piriyaikul, 2010). The results are shown in Table 1.

The above table shows that "human resource management which included recruitment /hiring, development/training, wages/benefits and evaluation/supervision variables" found that the loading is equal to 0.738, 0.853, 0.871 and 0.877, respectively. The data showed a significant level of confidence percentage of .95 (t-stat>1.96) which validates high reliability which affects Turnover Intention.

"Job satisfaction variables" are job satisfaction (SatJob) and off the job satisfaction (Satof) found that the loading is equal to 0.960 and 0.947, respectively, with the loading ranging from 0.707 and a significant level of confidence percentage 0.95 (t-stat>1.96) which considered such factors which affects turnover intention.

Therefore, the researcher took the variables 'Select' which is recruitment and hiring; 'Training' which is development and training; 'Compensation' which is wages and benefits; 'Appraisal' which is evaluation/supervision, 'SatJob' which is job satisfaction and finally; 'Satof' which is off the job satisfaction and used them in the structural equation analysis.

Classification accuracy verification: Discriminant validity has been tested on scale reliability, including Composite Reliability (CR) which should not be lower than 0.60, Average Variance Extract (AVE) should not be lower than 0.50 R² should not be lower than 0.20 (Table 2) and \sqrt{AVE} in the diagonal data should have a value higher than cross construct correlation of all values in the

Table 1: Convergent validity statistics in latent variable measurements in the reflective model

Construct/Item	Loading	t-stat
Human resource management		
Select: Recruitment/Hiring	0.738	9.932
Training: Development/Training	0.853	18.734
Compensation: Wages/Benefits	0.871	20.453
Appraisal: Evaluation/Supervision	0.877	22.107
Job satisfaction		
Satjob: Job satisfaction	0.960	33.873
Satof: Off the job satisfaction	0.947	38.687
Turnover intention		
Tud: Freedom to resign	0.945	12.910
Tus: Alternative opportunities	0.835	7.118

Table 2: Confirmatory Factor Analysis (CFA) of the independent variables of Leadership, management skill, organizational innovation and their affects on the dependent variable, organizational performance, CR: Composite Reliability, R²: Square of the correlation, AVE: Average Variance Extracted

Construct	CR	R ²	AVE	Cross construct correlation		
				Human resource management	Job satisfaction	Turnover intention
Human resource management	0.903		0.700	0.837		
Job satisfaction	0.953	0.578	0.910	0.760	0.954	
Turnover intention	0.885	0.223	0.795	-0.405	-0.466	0.892

Statistical significance level is at 0.05 and diagonal figures mean \sqrt{AVE} , CR: Composite reliability, AVE: Average variance extracted, R²: Square of the correlation

same column. The data validates that there was discriminant validity for each construct, without exception. (Lauro *et al.*, 2005; Henseler and Fassott, 2010; Wingworn and Piriyakul, 2010). Testing results of discriminate validity of this study was in accordance with all conditions shown in Table 2. Therefore, the scales of this study have been the scales with discriminant validity and reliability.

Figure 2 shows the study framework and the structural model of variables that influence the turnover intention within the Thai information technology industry. Variables included human resource management and job satisfaction and their influence on turnover intention of 220 surveyed career professionals. The samples were analyzed to answer the research hypotheses criteria of the following three assumptions (Table 3).

Furthermore, the structural analysis model framework was used to research the t-test coefficients and their relationship of each path of the t-test hypothesis with significance greater than 1.96. This explains the results obtained from analysis as shown in Table 1 and 2 as well as the test results presented in Table 3.

RESULTS AND DISCUSSION

The results of this study on the 'Structural equation model of variables affecting Turnover Intentions on Bangkok's Information Technology Career Professionals' concluded that Human Resource Management (HRM) has a positive influence on the job satisfaction of employees.

This corresponds with the study by Arumugam and Mojtahedzadeh (2011) concerning human resource management practices in the Malaysian industries and the many factors which are

Table 3: Hypothesis testing result of hypothetical research

Hypotheses	Coefficient	t-stat	Results
H1: Human Resources Management (HRM) influences job satisfaction	0.760	30.192	Supported
H2: Human Resources Management (HRM) influences turnover intention	-0.119	1.135	Not supported
H3: Job satisfaction influences turnover intention	-0.375	4.157	Supported

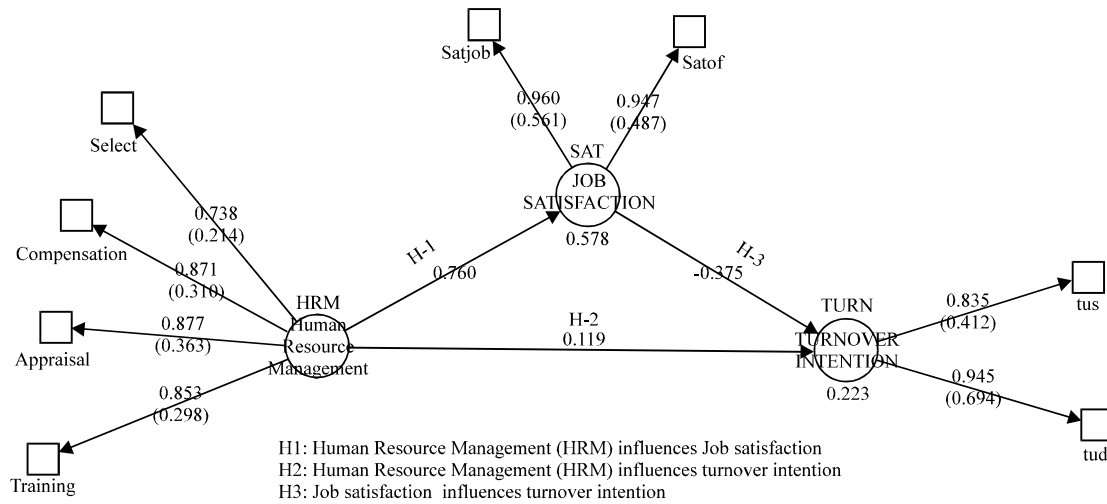


Fig. 2: Final model

effective in improving performance. They are as follows: Employee participation, training, job description, career planning system, compensation system, selection system and performance appraisal system. Job satisfaction plays a fundamental role in determining the performance.

This additionally corresponds with the Mudor and Tooksoon (2011) study which developed a conceptual framework about the relationship between human resource management and work and retirement satisfaction. The results showed that the human resource management has a positive relationship with job satisfaction and has a significant negative effect on the employee resignation. Results of practices in human resource management and job satisfaction predicted turnover of employees in the future.

More recent empirical study on HRM practices (Lee and Lee, 2007) uncovered six underlying HRM practices on business performance, namely training and development, teamwork, compensation/incentives, HR planning, performance appraisal and employee security which help improve a firms' business performance including employee's productivity, product quality and firm's flexibility. It can be concluded that human resource management has had a positive influence on the job satisfaction of employees (Mudor and Tooksoon, 2011; Kuo, 2011; Katou, 2012).

Negative job satisfaction increases the likelihood of employee turnover intentions (resignation). This is consistent with the study by Robbins *et al.* (1997) which stated that job satisfaction is an individual's general attitude toward his work with various jobs that require interaction between co-workers and bosses.

Factors conducive to job satisfaction include policy and organization, salary, relationships and control between supervisors and subordinates and working conditions, as well as feelings and emotions that gives the worker job satisfaction. This also includes achievement in the workplace as well as recognition of the social nature of the job responsibilities and career advancement opportunities (Van Dersal, 1968).

According to Van Dersal's definition of a 'great supervisor' (Van Dersal, 1968); "supervision is the art of working with a group of people over whom authority is exercised in such a way as to achieve their greatest combined effectiveness in getting work done. It is best performed in an atmosphere of good will and zestful cooperation on the part of all the people involved including of course, the supervisor. It is possibly one of the most difficult of all the arts, since it demands and ability to use successfully an almost intuitively those principles of human relations that have proven true with most people most of the time..."

Also, if employees are satisfied in practice, it will lead to an efficient operation. In contrast, if an employee is not satisfied with their work, adverse effects will occur to the unit. Employee performance is determined by satisfaction, operational conditions, salaries and benefits, promotion opportunities, relationships with colleagues and supervisors, policies and management, personal recognition, feeling successful and social relationships which will all affect the performance of the employees (Whittington and Galpin, 2010).

Research was undertaken by Chambers *et al.* (1998) in a study of 77 large and diverse U.S. corporations in which an examination was undertaken to find the philosophy of building people, determined that day to day practices and challenges of the work environment required top executives to focus on three main components, namely company recognition, good job and quality of lifestyle.

Organizations need to focus on 'talent management' as a means of organizational branding by causing the perception that the organization has good values and work culture. It is important that organizations are challenging, exciting, excellent performance and is a leader in the industry.

All of these will make employees take pride in the organization and make for more affective engagement as well as employee motivation. Also, if an organization contributes to employee pride and better quality production and collaborate with the individual to help with personal development, the resultant factor will be individuals wanting to continue being part of the organization. Individuals need to have greater control over themselves with less interference from their supervisors which contributes to a more challenging work environment with a sense of greater accomplishment. Employees will have also greater job satisfaction with their work and the results will be that employees remain longer.

This is also consistent with a study from Chaichalermping and Kessomboon (2007) which found that if an employee is satisfied in the workplace, employees will not resign from the organization. The job satisfaction has a negative variable towards turnover intention.

CONCLUSION

The results of this study on the 'Structural Equation Model of variables affecting Turnover Intentions on Bangkok's Information Technology Career Professionals' concluded that Human Resource Management (HRM) has a positive influence on the job satisfaction of Thai IT career staff. This necessitates organizations needing to focus on 'talent management' as a means of organizational branding by causing the perception that the organization has good values and work culture. It is important that organizations are challenging, exciting, excellent performance and is a leader in the industry. This will result in a new generation of employees which are satisfied in their work and reduce turnover rates for groups of new workers while increasing organizational loyalty.

REFERENCES

- Abeyssekera, R., 2007. The impact of human resource management practices on marketing executive turnover of leasing companies in Sri Lanka. *Contemp. Manage. Res.*, 3: 233-252.
- Armstrong, M., 2006. *A Handbook of Human Resource Management Practice*. 10th Edn., Kogan Page Publisher, London, ISBN: 9780749446314, pp: 1-5.
- Arumugam, V.C. and R. Mojtahedzadeh, 2011. The impact of human resource management practices on financial performance of Malaysian industries. *Int. Res. J. Fin. Econ.*, 80: 49-54.
- Branham, L., 2005. *The 7 Hidden Reasons Employees Leave: How to Recognize the Subtle Signs and Act before it's Too Late*. American Management Association, New York, ISBN: 9780814408513, Pages: 238.
- Chaichalermping, W. and N. Kessomboon, 2007. Relationships between job satisfaction, organizational engagement and turnover intention of Thailand pharmacist. Faculty of Pharmaceutical Sciences, Khonkaen University, Support by Healthy Promotion Fund (HDF), Health Systems Research Institute (HSRI) and Research and Development of the Health Workforce.
- Chambers, E.G., H. Handfield-Jones, S.M. Hankin and E.G. Michaels, 1998. Win the war for top talent. *Workforce*, 77: 50-55.
- Chin, W.W., 2001. PLS-Graph user's guide, version 3.0. Soft Modeling Inc., February 2001. <http://carma.wayne.edu/documents/oct1405/plsgraph3.0manual.hubona.pdf>.
- Eisenmann, T.R., G. Parker and M.W. Van Alstyne, 2006. Strategies for two sided markets. *Harv. Bus. Rev.*
- Gordon, J.D.M., N.R. Merrett, O.A. Bergstad and S.C. Swan, 1996. A comparison of the deep-water demersal fish assemblages of the Rockall Trough and Porcupine Seabight, Eastern North Atlantic: Continental slope to rise. *J. Fish Biol.*, 49: 217-238.
- Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson and R.L. Tatham, 2006. *Multivariate Data Analysis*. 6th Edn., Prentice Hall, Upper Saddle River, NJ., USA., ISBN-13: 978-0130329295, Pages: 928.
- Henseler, J. and G. Fassott, 2010. Testing Moderating Effects in PLS Path Models: An Illustration of Available Procedures. In: *Handbook of Partial Least Squares: Concepts, Methods and Applications*, Vinzi, V.E., W.W. Chin, J. Henseler and H. Wang (Eds.). Springer-Verlag, Berlin Heidelberg, ISBN: 9783540328254, pp: 713-736.
- Inkum, J., N. Saleewan, Nannapas, M. Chanpha and A. Prommin *et al.*, 2009. Satisfaction factors associated with the practice of professional nursing of HRH Princess Maha Chakri Sirindhorn Medical Center. *Thai Pharm. Health Sci. J.*, 412: 517-523.
- Katou, A.A., 2012. Investigating reverse causality between human resource management policies and organizational performance in small firms. *Manage. Res. Rev.*, 35: 134-156.
- Kuo, T.H., 2011. How to improve organizational performance through learning and knowledge? *Int. J. Manpower*, 32: 581-603.
- Lauro, C., V.E. Vinzi and S. Amato, 2005. PLS Typological Regression: Algorithmic, Classification and Validation Issues. In: *New Developments in Classification and Data Analysis*, Vichi, M., P. Monari, S. Mignani and A. Montanari (Eds.). Springer-Verlag, Berlin Heidelberg, ISBN: 978-3-540-23809-6, pp: 133-140.
- Lee, F. and F. Lee, 2007. The relationships between HRM practices, leadership style, competitive strategy and business performance in Taiwanese steel industry. *Proceedings of the 13th Asia Pacific Management Conference*, November 18-20, 2007, Melbourne, Australia, pp: 953-971.

- Lewis, M., 2008. Causal factors that influence turnover intention in a manufacturing organization. MBA Thesis, Gordon Institute of Business Science, University of Pretoria, South Africa.
- Likert, R., 1970. *The Human Resources: Cases and Concepts*. Harcourt Brace, New York.
- Lumley, E.J., M. Coetzee, R. Tladinyane and N. Ferreira, 2011. Exploring the job satisfaction and organisational commitment of employees in the information technology environment. *Southern Afr. Bus. Rev.*, 15: 100-118.
- Mudor, H. and P. Tooksoon, 2011. Conceptual framework on the relationship between human resource management practices, job satisfaction and turnover. *J. Econ. Behav. Stud.*, 2: 41-49.
- Piriyakul, M., 2010. Partial least square path modeling (PLS path modeling). Proceedings of the 11th Academic Conference of Applied Statistics, November 19, 2010, Bucharest, Romania.
- Poonkrajang, A., 2009. Factors affecting the performance and turnover intentions of employees in metal company limited. *J. Applied Arts*, 2009: 34-41.
- Pricewaterhouse Coopers, 2008. *Result smarter growth: 13th annual global CEO Survey setting a smarter course for growth main report*. Pricewaterhouse Coopers International Limited.
- Pungbankhoah, N., 2012. Factors influencing siam commercial bank staff turnover: The case study of the Phra Prathon Area Office. Proceedings of the 2nd National Graduate Conference, November 8-10, 2012, University Tenaga Nasional, Putrajaya Campus, Malaysia.
- Pungnirund, B., 2007. The influence of organizational characteristic management policies and practics environment motivation satisfaction and employee engagement effective of Suan Sunandha Rajabhat university. Ph.D. Thesis, Srinakharinwirot University, Bangkok, Thailand.
- Robbins, D.J., K.E. Nybakken, R. Kobayashi, J.C. Sisson, J.M. Bishop and P.P. Therond, 1997. Hedgehog elicits signal transduction by means of a large complex containing the kinesin-related protein costal2. *Cell*, 90: 225-234.
- Sani, A.D., 2012. Strategic human resource management and organizational performance in the Nigerian insurance industry: The impact of organizational climate. *Bus. Intell. J.*, 5: 8-20.
- Sarhingrangsri, P. and P. Polsarum, 2009. Educational reasons for employee resignation, factors affecting the resignation and offer guidelines on how to treat staff: Case study of Power Buy Company limited. University of the Thai Chamber of Commerce, Bangkok, Thailand.
- Scott, D., J.W. Bishop and X. Chen, 2003. An examination of the relationship of employee involvement with job satisfaction, employee cooperation and intention to quit in U.S. invested enterprise in China. *Int. J. Org. Anal.*, 11: 3-19.
- Som, A., 2008. Innovative human resource management and corporate performance in the context of economic liberalization in India. *Int. J. Hum. Resour. Manage.*, 19: 1278-1297.
- Van Dersal, W.R., 1968. *The Successful Supervision in Government and Business*. Harper & Row Publishers, New York.
- Vandenberg, R.J. and C.E. Lance, 1992. Examining the causal order of job satisfaction and organizational commitment. *J. Manage.*, 8: 153-167.
- Whittington, J.L. and T.J. Galpin, 2010. The engagement factor: Building a high-commitment organization in a low-commitment world. *J. Bus. Strategy*, 31: 14-24.
- Wingworn, B. and M. Piriyakul, 2010. [PLS path model for antecedents and consequences of Perceived Organizational Support (POS) for employees in small and medium enterprises in Lampang province]. *Thailand J. Assoc. Res.*, 2: 140-155 (In Thai).
- Yue, X., W.S. Schreiner, D.C. Hunt, C. Rocken and Y.H. Kuo, 2011. Quantitative evaluation of the low earth orbit satellite based slant total electron content determination. *Space Weather*, Vol. 9. 10.1029/2011SW000687