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THE RELATIONSHIP BETWEEN PSYCHOSOCIAL FACTORS AND QUALITY OF WORKING LIFE AMONG INFORMATION SYSTEMS PERSONNEL

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FPP 2004 16

THE RELATIONSHIPS BETWEEN PSYCHOSOCIAL FACTORS AND QUALITY OF WORKING LIFE AMONG INFORMATION SYSTEMS PERSONNEL

By

GUNA SEELAN RETHINAM

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Partial Fulfilment of the Requirement for the Degree of Doctor of Philosophy

September 2004

UPM

DEDICATION

This dissertation is dedicated to

My parents, parents-in-law, wife, children, Information Systems Personnel, and the community of rubber tappers in Malaysia

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the partial requirement for the degree of Doctor of Philosophy

THE RELATIONSHIPS BETWEEN PSYCHOSOCIAL FACTORS AND QUALITY OF WORKING LIFE AMONG INFORMATION SYSTEMS PERSONNEL

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September 2004

Chairperson: Professor Maimunah Ismail, Ph.D

Faculty : Educational Studies

Increasing demand against the limited supply has forced the IS personnel to be responsible for multitasking with a higher workload. This trend appears to exert pressure and leads to dehumanised work environment which has substantial impact on their QWL. Lack of attention from management on issues related to psychosocial factors is one of the reasons. Thus, in light of humanising workplace, this research was initiated to investigate the relationship between psychosocial factors and QWL among the fastest growing workforce which will be responsible to transform Malaysia into a developed nation. A total of 453 valid responses were used from a sample of 600 questionnaires sent to randomly selected IS personnel employed in MSC organisations. The 76% of return rate was due to multiple approaches practised in collecting the survey questionnaires. The data collected were first explored using Exploratory Data Analysis (EDA) and reliability test prior to employing descriptive and inferential statistics using the SPSS.

This study found that most of the IS personnel employed in MSC organisations experience moderate to high level of QWL. Organisational support, job dimension, job control and job demand show significant positive relationship with QWL. The components of organisational characteristics (co-worker support) and job characteristics (autonomy, task identity, task significance, psychological demand, emotional demand and skill discretion) are the major contributors of QWL. All the selected psychosocial factors, namely, job dimension, job control, organisational support, and job demand, are the major contributors of QWL. However, growth need strength (GNS) was not the major contributors. The selected psychosocial variables explained 49.3% of variance in QWL. The selected socio-demographic variables; personal profile (gender, age, educational level and monthly income); professional profile (total work experience, occupational category and work practices); and organisational profile (year of operations and nationality of the workforce) show significant difference in the mean of QWL. A highly demanding job with substantial control and support creates an active working condition that provides a continuous learning environment for continuous improvement. Hence, the IS personnel experience better QWL. This study recommends that the relevant authorities take precautionary action to maintain a higher level of QWL among IS personnel. Future research should include wider scope of psychosocial variables across various industries before providing additional input for strategic human resource planning for IS personnel in the country.

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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi sebahagian keperluan untuk ijazah Doktor Falsafah

PERKAITAN ANTARA FAKTOR-FAKTOR PSIKOSOSIAL TERHADAP KUALITI KEHIDUPAN KERJA (KKK) DI KALANGAN PEGAWAI SISTEM MAKLUMAT (PSM)

Oleh

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Permintaan yang tinggi terhadap Pegawai Sistem Maklumat (PSM) berbanding dengan penawaran yang terhad menyebabkan mereka bertanggungjawab terhadap bebanan kerja yang berat. Aliran ini mengakibatkan tekanan dan mewujudkan suasana kerja yang bercanggah dengan kemanusian serta meninggalkan impak yang ketara terhadap kualiti kehidupan kerja (KKK). Salah satu puncanya ialah kurangnya perhatian daripada pihak pengurusan terhadap isu-isu yang berkaitan dengan faktor psikososial. Ditinjau dari sudut mewujudkan suasana kerja yang bersifat lebih berkemanusian, kajian ini dilaksanakan untuk meninjau hubung kait antara faktor psikososial dan KKK di kalangan tenaga kerja yang mengalami pertumbuhan terpesat yang seterusnya akan bertanggungjawab untuk menjadikan Malaysia sebuah negara maju. Sejumlah 453 borang soal selidik telah diterima pakai daripada 600 borang yang telah dihantar secara rawak kepada pegawai-pegawai sistem

maklumat yang berkhidmat di organisasi yang bertaraf MSC. Kadar maklumbalas yang tinggi iaitu 76% adalah disebabkan oleh pengunaan pelbagai kaedah dalam mengumpul borang soal-selidik. Data yang dikumpul terlebih dahulu diteliti dengan menggunakan analisis eksplorasi data (EDA) dan ujian kesahihan sebelum statistik lanjutan dijalankan dengan menggunakan perisian (SPSS).

Hasil kajian menunjukkan bahawa PSM yang berkhidmat di MSC mempunyai tahap KKK dari peringkat sederhana hingga tinggi. Sokongan organisasi, dimensi kerja, kawalan kerja dan bebanan kerja menunjukkan perkaitan positif yang signifikan terhadap KKK. Komponen organisasi (sokongan rakan sekerja) dan sifat kerja (autonomi, identiti tugasan, signifikan tugas, tekanan psikologi, tekanan emosi and kemahiran membuat keputusan) adalah faktor utama yang menyumbang kepada KKK. Kesemua faktor psikososial yang dinamakan iaitu dimensi kerja, kawalan kerja, sokongan kerja dan tekanan kerja, merupakan penyumbang utama kepada KKK. Walau bagaimanapun, keupayaan pembangunan diri bukanlah penyumbang utama. Variabel psikososial terpilih menjelaskan varians 49.3% dalam KKK. Variabel sosio-demografi; profil personal (gender, umur, tahap pendidikan dan pendapatan bulanan); profil profesional (pengalaman bekerja, kategori pekerjaan dan amalan kerja), profil organisasi (umur organisasi dan kewarganegaraan pekerja) menunjukkan perbezaan yang signifikan terhadap KKK. Tekanan kerja yang sememangnya tinggi beserta kawalan dan sokongan yang sewajarnya mewujudkan suasana kerja yang aktif. Ini memberikan

suasana kerja yang membolehkan pembelajaran berterusan untuk peningkatan berterusan yang seterusnya memungkinkan PSM menikmati KKK yang lebih baik. Kesimpulannya, kajian ini menyarankan supaya pihak yang berkaitan mengambil langkah pembaikpulihan demi mengekalkan tahap KKK yang tinggi di kalangan PSM. Kajian akan datang disarankan supaya memperluas skop faktor psikososial merentasi pelbagai industri sebelum membekalkan input tambahan bagi perancangan strategik pembangunan sumber manusia untuk PSM di negara ini.

OM NAMOH BAGAVATHE SIVANANDAYA

ACKNOWLEDGEMENTS

First and foremost, I am grateful and indebted to Gurudev Swami Sivananda for giving me the spiritual strength to complete this study. I am also indebted to each and everyone who has shared time, energy and knowledge to assist me in successfully completing this dissertation.

My gratitude is further extended to Professor Dr. Maimunah Ismail, chairperson of the supervisory committee, for her tireless constructive advice, encouragement and insights into my study. My sincere thanks to Associate Professor Dr. Musa Abu Hassan and Associate Professor Dr. Bahaman Abu Samah who had given me valuable guidance, comments and suggestions during the research process. I am thankful to the Ministry of Science and Environment for granting me financial support (PASCA) post graduate scheme throughout the duration of this study.

A special note of gratitude to the IS personnel who had given tremendous support through their response in this study. My eternal gratitude to my parents for their endless encouragement to complete my study. My deepest appreciation to my loving wife, Thennarasi Mani, who deserves the utmost recognition for her endurance and affections. Finally, my sincere apologies to my sons Master Lingges Shaswat and Master Nittesh Shaswatt for not being by their side whenever they needed me at the crucial moments of this study.

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LIST OF ABBREVIATIONS

EPF	-	Employment Provident Fund
ERI	-	Effort-Reward Imbalance Model
EWON	-	European Foundation for the Improvement of Living and Work Conditions
GNS	-	Growth Need Strength
HRDF	-	Human Resource Development Fund
ICT	-	Information and Communication Technology
IDC	-	International Data Corporations
ILO	-	International Labour Organisation
IS	-	Information System
ISI	-	Information Society Index
IT		Information Technology
JCM	-	Job Characteristic Model
JDCM	-	Job Demand-Control Model
JDCS	-	Job Demand Control Support Model
JDS	-	Job Diagnostic Survey
JFMA	-	Japan Facility Management Association
KWX	-	Knowledge Workers Exchange
MDC	-	Multimedia Development Corporations
MSC	-	Multimedia Super Corridor
OECD	-	Organisation of Economic Cooperation and Development
QWL	-	Quality of Working Life
R&D	-	Research and Development
SCB	-	Sweden Capital Board
SME	-	Small Medium Size Enterprises
SPSS	-	Statistical Packages for Social Sciences

CHAPTER ONE

INTRODUCTION

Background of the Study

Global economic trends and the strong determination of the Malaysian government have made ICT to become the veins and arteries of contemporary organisations. The integration of ICT into their business process has made the organisation to restructure their existing policies in order to remain competitive in the global economy (Kalakota & Robinson, 2001). This trend provides an opportunity to the organisations to explore, expand and sustain their business operations globally (Byrd, 2001; Ernst & Young, 2001). Perhaps, it creates a demand for a new workforce in employment market. One of the fastest growing workforces in this work environment is the Information systems (IS) personnel. They are involved in the acquisition, processing, storage of vocal, pictorial, textual and numerical information by means of information and communication technologies which demand extensive use of ICT skills.

Subsequently, ICT changes the components of work and its environment. The factors that influence the changes in the components of work and its environment are also able to influence the individual employee. These factors are called psychosocial factors. The changes of psychosocial factors could lead to positive or negative consequences to the respective

employee. Positive effects include learning opportunities, interesting new tasks and opening of opportunities for competence development as they share new responsibilities, use new tools and technologies (Jarvenpaa & Eloranta, 2001). On the other hand, negative effects could result from working in fast growing industries and using complex ICT tools that require the handling of many tasks with higher responsibilities. Working with ICT all day long to meet the tight deadlines may also create more complex and demanding role for IS personnel. Consequently, they face irregular surges in demand (Business Decision Limited, 1999).

These changes in the work environment may cause cumulative effects on health and performance (Borg, Kristensen & Burr, 2000). For example, broad array of ICT that links information systems and people, downsizes the management layer towards a flatter and leaner organisational structure and design (Klein, Chi & Klibaner, 2000; Fulk & DeSanctis, 1995). IS personnel are also required to work independently with multinational teams round the clock regardless of their location throughout the world (Evans & Wurster, 2000). Thus, it allows them to carry out multiple tasks and simultaneously report to more than one superior. This flexible relationship creates new employment trends that make it possible for the sharing of work around the time zone to capitalize on skills and the expertise of some highly skilled workforce at a lower cost (Industrial Relations Services, 2000; KPMG, 1998; Merill, 2000). Such a working environment exposes the IS personnel to high task complexity.

Robbins (2001) argued that the complexity of task variety among IS personnel without substantial coping strategies causes negative consequences that lead to poor quality of working life (QWL). High strain work environment, job insecurity, poor personal development in the job as well as greater imbalance of work with non-work activities are among the negative consequences resulting from the task complexity which lead the IS personnel to experience poor QWL. Therefore, understanding the psychosocial changes in work environment is essential to provide substantial strategies to counteract such surges (Andries et al., 2002; De Jonge et al., 2000; Marmot et al., 1999) especially in the technologically emerging societies, like in Malaysia.

The concern has become crucial among the ICT industry in Malaysia. Table 1 shows demand and supply of the skilled IS Personnel in Malaysia for the period of 1991-2005.

Table 1: Employment Demand-Supply of Skilled IS Personnel for the Period of 1991-2005

Malaysia Plan Period (Year)	Demand	Supply	Shortage
Sixth Malaysia Plan (1991-1995)	27,174	20,166	7,008
Seventh Malaysia Plan (1996-2000)	108,000	29,464	78,536
Eight Malaysia Plan (2001-2005)	181,600	137,746	43,854

Sources: Government of Malaysia, 1995; 2001

The ICT industry has been enjoying the highest employment growth of 17.2% in 2003 and is expected to register a 23% growth in 2004 compared

to other industries (Knowledge Worker Exchange, 2004). Beyond expected rapid development in the ICT sectors has created a vacuum in the employment trend. The employment demand for the skilled IS personnel is expected to be greater in the year 2005. The continuous growth in ICT sectors is expected to demand 306,000 personnel by 2010 (Government of Malaysia, 2000). The Malaysian Employer Federation (MEF) reported that 27.5% of the 356 companies surveyed faced a shortage of skilled ICT workers (Malaysian Employers Federations, 2001). However, by September 2004, it has been reported that 17000 IT graduates were unemployed (Knowledge Worker Exchange, 2004). The mismatch of skills required by employers is the most prominent factor that causes the unemployment of IT graduates, even though there is shortage in the employment market (Beaumont et al., 2004). Realising this crucial fact, the Malaysian government through the Human Resource Development Berhad has taken the initiatives to equip the fresh graduates with essential ICT skills. This unwavering commitment has significantly forced them to develop ICT skills to meet the employment demand.

No doubt, all other occupations have a capacity to influence the work and non-work life balance, but some occupations are potentially more influential than others. Bagnara, Mariani & Parlangeli (2001) have reported that work within the service industry, those with high technology and that undergoing structural job changes are potentially more stressful than others. Martinsons & Cheung (2001) stated that continuous changes in psychosocial work factors directly or indirectly affected the IS personnel. As

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these changes are demanding the IS personnel to perform, an effective measure to handle its consequences is the responsibility of the organisations. Therefore, one of the ongoing concerns among the ICT industries is to mitigate the effects of changes in psychosocial work environment on job satisfaction, work performance, reliability, health and comfort. Thus, human resource issues related to providing a better QWL are important to attract and retain prospective IS personnel in the demanding employment market.

Statement of the Problem

Malaysia is experiencing the crucial moment in materialising its ICT agenda. The difficulty in meeting the increasing demand of skilled IS personnel against the limited supply is one of the major problems faced by the Malaysian organisations in recent years. This situation has forced many ICT organisations to capitalise on small IS workforce to undertake the ever-expanding work responsibilities that demand long hours of physical presence in front of the computer (Duxbury, Higgins & Johnson, 1999). This trend appears to exert pressure and leads to a dehumanised work environment (Watson et al., 2003). Dehumanised work environment influences the life style of IS personnel, which has substantial impact on their QWL (Dhondt, Kraan & Sloten, 2002; Bradley, 2001; Lau, et al., 2001).

One of the reasons for a dehumanised workplace is the lack of attention from the management on issues related to psychosocial work factors

(Watson et al., 2003). The nature of IS personnel's work that requires them to work on various tasks simultaneously and report to numerous superiors is bound to force them to complete the jobs within a tight schedule. It means that the integration of ICT in the workplace is not aimed to improve the current work practices but rather to exploit the IS personnel towards a higher organisational performance (Lau et al. 2001; Waterson et al., 1999; Clegg et al., 1997). Steijn (2001) states that their nature of work is often not designed with the human factor in mind. Thus, in light of reports of increasing dehumanisation of the workplace, improving the QWL should be the focus of the national policy making. QWL, especially among the IS personnel is important as they are becoming a nucleus of this high growth industry of the future which can make the VISION 2020 to become a reality.

Although the concepts of ICT, its antecedents and outcomes have been researched extensively, little attention has been devoted to understand the QWL and its relationship with psychosocial factors, particularly among IS personnel. The need for an increase in effort on this research and to improve the understanding of the QWL clearly indicates a knowledge gap in the field of social science, specifically human resource development. Therefore, it warrants a research that focuses on the relationship between psychosocial factors and QWL particularly among the fastest growing workforce which will be responsible in transforming Malaysia into a developed nation.