

**THE INFLUENCE OF INTELLECTUAL CAPITAL ON THE PERFORMANCE  
OF TELEKOM MALAYSIA**

**MAZLAN BIN ISMAIL**

**UNIVERSITI TEKNOLOGI MALAYSIA**

THE INFLUENCE OF INTELLECTUAL CAPITAL ON THE PERFORMANCE  
OF  
TELEKOM MALAYSIA

MAZLAN BIN ISMAIL

A dissertation submitted in partial fulfilment of the  
requirements for the award of the degree of  
Doctor of Engineering  
(Engineering Business Management)

Business & Advanced Technology Centre  
Universiti Teknologi Malaysia

OCTOBER 2005

### **Dedication**

To my beloved mother, father and wife for their prayers, patience, support and encouragement and to my seven children –  
'Insyallah' (with Allah's help), if you believe enough, a man can do anything.

## ACKNOWLEDGEMENT

I would like to thank and express my gratitude to my supervisors - Prof. Dr. Nooh Abu Bakar, Prof. Madya Dr. Ahmad Rahman Songip, En. Abd. Halim Abd Razak, and my dearest adviser En. Raduwan Safperwan for giving their valuable guidance, advice and motivation, a long the way, for me to accomplish the task.

Thank you to Prof. Dr. Hamdani Saidi, the academic team members and the supporting staff at Business & Advanced Technology Centre for giving their support and assistance during my study at BATC.

My special thanks to Telekom Malaysia especially YBhg Dato Dr. Abd Rahim Hj.Daud and Dato Syed Mustaffa Syed Ali who have decided to provide scholarship and study leave for me to pursue this study. To General Manager of Human Resource Development and the Yayasan Telekom team members, Puan Sharifah, Puan Rohana and En. Shaharudin for their continuous support and cooperation during my study leave period, other Telekom Malaysia management team and executives for providing confidential information, sincere valuable thought and support. This study would not have been possible without their assistance.

To my mother, Tok Puan for her continuous prayer and encouragement, to my wife Fadhilah Abdullah and my children Muslihuddeen Rabbani, Ahmad Uzair, Abbasi Madani, Faatihah, Najmuddeen Erbakan, Putri Naajihah and our new born 7<sup>th</sup> child, Ahmad Yassin Rantissi for their prayers, patience and sacrifices. Last but not least to my brother, En. Mohd Fahmi, my uncle En. Wanchee Jusoh and family, Ustaz Hassan Abdul Razak and my close friends for their motivation, assistance and updates especially during my busy and tired times.

All of the abovementioned individuals and many others have presented an additional component of intellectual capital - the spiritual capital - to me. I have started to slowly understand it, develop it, think more about it, and research about it. I have become that much better and richer, intellectually and spiritually. Alhamdulillah (Thanks to Allah). My sincerest and heartfelt thanks to all of you good people.

## ABSTRACT

This case study investigates the influence of intellectual capital on the performance of Telekom Malaysia. It consists of investigating the level of intellectual capital, the effect and influence of spiritual capital, the importance of knowledge management and managing and leveraging of intellectual capital on the performance. A mixed method research approach is used with strategies of inquiry that involve sequential quantitative and qualitative data collection. With broad intellectual capital theoretical perspective guides including the spiritual capital, the data collection is done sequentially in phases beginning with a questionnaires survey, followed by secondary data analysis and finally the interview sessions. Independent variables are human capital, structural capital, relational capital, spiritual capital, knowledge management and managing and leveraging of intellectual capital and dependent variable is performance improvement in the aspect of organisational and business leadership, operating efficiency and business performances. The survey involves the executives to assistant general manager levels working at various departments at the 14 states business areas and headquarters level and the interviewees are from the general manager to senior vice-president and CEO. Statistical techniques such as means of variance, factor analysis, ANOVA test, regression analysis, path analysis and narrative passages are used in analysing the data. The study indicates a positive significant relationship between relational, human, spiritual and structural capital and managing and leveraging of intellectual capital on the performance whereas knowledge management has indirect relationship to the performance. This research makes important theoretical and empirical contributions to the literature on the influence of intellectual capital, on the effect and influence of spiritual capital and the importance of managing and leveraging of intellectual capital on the performance of the organisation. By having a stronger spiritual capital within the higher management to manage and leverage the present intellectual capital, Telekom Malaysia will achieve further performance improvement in the future.

## ABSTRAK

Kajian kes ini melibatkan pemeriksaan terhadap pengaruh modal intelek ke atas prestasi Telekom Malaysia. Ianya meliputi pemeriksaan terhadap tahap modal intelek, kesan dan pengaruh modal kerohanian, kepentingan pengurusan ilmu dan pengurusan serta daya pencungkilan modal intelek terhadap prestasi. Pendekatan kaedah bercampur digunakan didalam kajian ini dengan strategi penyiasatan melibatkan pengumpulan maklumat secara kuantitatif yang kemudiannya dituruti pula dengan secara kualitatif. Dengan berpandukan kepada teori modal intelek termasuk modal kerohanian, fasa pengumpulan data bermula dengan penggunaan borang kajiselidik dituruti dengan maklumat sekunder dalaman syarikat dan diakhiri dengan sesi temubual. Pembolehubah tidak bersandar terdiri dari modal insan, modal kestruktur, modal perhubungan, modal kerohanian, pengurusan ilmu dan pengurusan serta daya pencungkilan modal intelek, manakala pembolehubah bersandar ialah peningkatan prestasi yang terdiri dari kepimpinan perniagaan dan organisasi juga kecekapan operasi serta prestasi perniagaan. Borang kajiselidik melibatkan anggota diperingkat eksekutif sehingga peringkat penolong pengurus besar dari 14 pejabat perniagaan negeri dan diperingkat ibupejabat, manakala sesi temubual melibatkan anggota di peringkat pengurus besar, naib presiden kanan serta ketua pegawai eksekutif Telekom Malaysia. Teknik statistik seperti Analisa Min, Analisa Perbandingan Min, Analisis Faktor, Analisis Varian, Analisis Regresi, Analisis Lorongan serta analisa perjalanan penceritaan di gunakan didalam proses analisa maklumat. Kajian menunjukkan hubungan positif yang signifikan antara modal perhubungan, kerohanian, insan dan modal kestruktur juga pengurusan dan daya pencungkilan modal intelek terhadap prestasi, manakala pengurusan ilmu mempunyai hubungan yang tidak langsung dengan prestasi. Kajian ini telah memberikan sumbangan teori dan empirikal terhadap keilmuan disegi pengaruh modal intelek, kesan dan pengaruh modal kerohanian dan kepentingan pengurusan serta daya pencungkilan modal intelek terhadap prestasi organisasi. Dengan mempunyai modal kerohanian yang lebih kuat dikalangan pengurusan atasan untuk mengurus serta daya mencungkil modal intelek yang sedia ada, Telekom Malaysia akan dapat mencapai tahap peningkatan prestasi yang lebih baik dimasa depan.

## TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	Declaration of the Status of Thesis	
	Letter regarding status classification of thesis	
	Supervisor's declaration	
	Declaration on cooperation	
	Title page	i
	Declaration of originality and exclusiveness	ii
	Dedication	iii
	Acknowledgements	iv
	Abstract (English)	v
	Abstrak (Bahasa Melayu)	vi
	Table of Contents	vii
	List of Tables	xii
	List of Figures	xix
	List of Symbols/Abbreviation/Notation/Terminology	xxi
	List of Appendices	xxii
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
	1.1 Background	1
	1.2 Research Problem	4
	1.3 Research Objectives	5
	1.4 Justification for Study	6
	1.5 Organization of Thesis	8
	1.6 Key Definitions and Concepts	9
	Summary	10

<b>2</b>	<b>LITERATURE REVIEW</b>	11
	2.1 Introduction	11
	2.2 Intellectual Capital and Business Performance	13
	2.3 Definition and Classification of Intellectual Capital	17
	2.4 The Need for a Redefinition of Intellectual Capital	26
	2.5 Deficiency of Contemporary Definition of Intellectual Capital	29
	2.6 Spiritual Capital in Practice	30
	2.7 Knowledge Management and Intellectual Capital Summary	34 38
<b>3</b>	<b>THE DEVELOPMENT OF A NEW MODEL OF INTELLECTUAL CAPITAL BY INCLUDING SPIRITUAL CAPITAL</b>	40
	3.1 Metaphor of Spiritual Capital	40
	3.2 What is Spiritual Capital	41
	3.2.1 Spiritual and Intelligence	43
	3.2.2 Spiritual, Culture and Religion	45
	3.2.3 Spiritual and Servant-Leadership Concept.	50
	3.2.4 Spiritual and the New Sciences Theory	51
	3.3 Organization's Intellectual Capital Central-Triangle Model	53
	3.4 The Potential Relation of Spiritual Capital to Other Forms of Capital	56
	3.5 Ten Clues to the Presence of Spiritual Capital Within Individual or Organization	57
	3.6 Analysis and Comments	59
	3.7 New Definition of Intellectual Capital Summary	61 63
<b>4</b>	<b>RESEARCH DESIGN AND METHODOLOGY</b>	65
	4.1 Research Framework	65
	4.2 Research Model	67



4.3	Questionnaire	71
4.3.1	Questionnaire Pilot-test	79
4.3.2	Sample	80
4.3.3	Data Collection	81
4.4	Secondary Data	82
4.5	Interview	86
	Summary	88
<b>5</b>	<b>DATA ANALYSIS AND DISCUSSION</b>	<b>90</b>
5.1	Questionnaire Survey Data	90
5.1.1	Reliability of Measures	91
5.1.2	Respondent's Characteristic	91
5.1.3	Accounting for Bias.	94
5.1.4	Descriptive Statistic of Variables	95
5.1.5	Survey Results	96
5.1.5.1	Human Capital	96
5.1.5.2	Structural Capital	97
5.1.5.3	Relational Capital	98
5.1.5.4	Spiritual Capital	100
5.1.5.5	Knowledge Management	101
5.1.5.6	Managing and Leveraging of Intellectual Capital	103
5.1.5.7	Performance Improvement	105
5.1.5.8	Factor Analysis for Intellectual Capital	106
5.1.5.9	Factor Analysis for Knowledge Management	114
5.1.5.10	Factor Analysis for Managing and Leveraging of Intellectual Capital	115
5.1.5.11	Factor Analysis for Performance Improvement	117
5.1.5.12	Test Analysis	119

5.1.5.13	One Way ANOVA Test for Independent Variables Against Age	119
5.1.5.14	One Way ANOVA Test for Independent Variables Against Qualification	121
5.1.5.15	One Way ANOVA Test for Independent Variables Against Job-grades	132
5.1.5.16	One Way ANOVA Test for Independent Variables Against Department	137
5.1.5.17	One way ANOVA Test for Independent Variables Against Place of Work	142
5.1.5.18	One way ANOVA Test for Independent Variables Against Length of Service	151
5.1.5.19	Summary of Tests	158
5.1.5.20	Relationship Amongst Variables	163
5.1.5.21	Regression Analysis	165
5.1.5.22	Path Analysis	176
5.2	Secondary Data	180
5.3	Interview	183
5.3.1	Interview Data	183
5.4	Analysis and Discussion	187
5.4.1	Intellectual Capital	187
5.4.1.1	Human Capital	188
5.4.1.2	Structural Capital	195
5.4.1.3	Relational Capital	198
5.4.1.4	Spiritual Capital	201
5.4.2	Knowledge Management	209
5.4.3	Managing and Leveraging of Intellectual Capital	214

5.4.4	Causal Relationship	225
5.4.4.1	The Effect of Spiritual Capital	225
5.4.4.2	Human Capital, Structural Capital, Relational Capital and Managing and Leveraging of Intellectual Capital	227
5.4.4.3	Knowledge Management	229
5.4.5	Overall Finding	230
	Summary	232
<b>6</b>	<b>RECOMMENDATION AND CONCLUSION</b>	<b>235</b>
6.1	Benefits to Telekom Malaysia	235
6.2	Conclusion	236
6.3	Limitation of the Study	237
6.4	Recommendation	238
6.4.1	Spiritual Capital Enhancement	238
6.4.2	Theoretical and Deployment Framework	239
6.4.3	Consequence Management System	240
6.4.4	Employees Test Profiles	240
6.4.5	Long-term Structured Training	241
6.4.6	Knowledge Management	241
	<b>REFERENCES</b>	<b>242</b>

## LIST OF TABLES

<b>TABLE NO.</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Definitions of intellectual capital	18
2.2a	Top 20 ‘Global Most Admired Knowledge Enterprise’ yearly report	26
2.2b	Top 20 ‘Global Most Admired Knowledge Enterprise’ yearly report (continue)	27
3.1	Features and characteristic of recovery or rebound	60
4.1	Human capital	72
4.2	Structural capital	73
4.3	Relational capital	74
4.4	Spiritual capital	75
4.5a	Knowledge management	76
4.5b	Knowledge management (continue)	77
4.6	Managing and leveraging of intellectual capital	77
4.7a	Performance improvement	78
4.7b	Performance improvement (continue)	79
4.8a	Evaluation check-list for secondary data	84
4.8b	Evaluation check-list secondary data (continue)	85
5.1	Cronbach’s Alpha Coefficient of instrument for pilot and actual studies	91
5.2a	Demographic data of the respondents	92
5.2b	Demographic data of the respondents (continue)	93
5.3	Non-responded questionnaires	94
5.4	Descriptive statistic: Central tendencies	96
5.5	The mean and percentage of respondents on human capital	97
5.6	The mean and percentage of respondents on structural capital	98

5.7	The mean and percentage of respondents on relational capital	99
5.8	The mean and percentage of respondents on spiritual capital	101
5.9a	The mean and percentage of respondents on knowledge management	102
5.9b	The mean and percentage of respondents on knowledge management (continue)	103
5.10	The mean and percentage of respondents on managing and leveraging of intellectual capital	105
5.11	The mean and percentage of respondents on TM's performance improvement	106
5.12a	Factor Analysis of Intellectual capital (human capital, structural capital, relational capital and spiritual capital)	108
5.12b	Factor Analysis of Intellectual capital (human capital, structural capital, relational capital and spiritual capital) (continue)	109
5.12c	Factor Analysis of Intellectual capital (human capital, structural capital, relational capital and spiritual capital) (continue)	110
5.12d	Factor Analysis of Intellectual capital (human capital, structural capital, relational capital and spiritual capital) (continue)	111
5.12e	Factor Analysis of Intellectual capital (human capital, structural capital, relational capital and spiritual capital) (continue)	112
5.13	New scales of intellectual capital variables	113
5.14a	Factor analysis for knowledge management.	114
5.14b	Factor analysis for knowledge management (continue)	115
5.15	New scales for knowledge management variables	115
5.16a	Factor analysis for managing and leveraging of intellectual capital.	116
5.16b	Factor analysis for managing and leveraging of intellectual capital (continue)	117

5.17	New scales for managing and leveraging of intellectual capital variables.	117
5.18	Factor analysis for performance improvement	118
5.19	New scale for performance improvement	118
5.20	T-Test result for independent variables against gender	119
5.21	One Way ANOVA test result for independent and dependent variables against age	120
5.22a	One Way ANOVA test result for human capital against qualification	121
5.22b	One Way ANOVA test result for human capital against qualification (continue)	122
5.23	One Way ANOVA test result for structural capital against qualification	123
5.24a	One Way ANOVA test result for relational capital against qualification	124
5.24b	One Way ANOVA test result for relational capital against qualification (continue)	125
5.25	One Way ANOVA test result for spiritual capital against qualification	126
5.26a	One Way ANOVA test result for knowledge management against qualification	127
5.26b	One Way ANOVA test result for knowledge management against qualification (continue)	128
5.27	One Way ANOVA test result for managing and leveraging of intellectual capital against qualification.	129
5.28a	One Way ANOVA test result for performance improvement against qualification.	130
5.28b	One Way ANOVA test result for performance improvement against qualification (continue)	131
5.29	One Way ANOVA test for human capital against job-grades	132
5.30	One Way ANOVA test for structural capital against job-grades	133
5.31	One Way ANOVA test for relational capital against job-grades	134

5.32	One Way ANOVA test for spiritual capital against job-grades	134
5.33	One Way ANOVA test for knowledge management against job- grades	135
5.34	One Way ANOVA test for managing and leveraging of intellectual capital against job-grades	136
5.35	One Way ANOVA test for performance improvement against job- grades	137
5.36	One Way ANOVA test for relational capital, spiritual capital knowledge management, managing and leveraging of intellectual capital and performance against department	138
5.37	One Way ANOVA test for the human capital against department	139
5.38a	One Way ANOVA test for structural capital against department	140
5.38b	One Way ANOVA test for structural capital against department (continue)	141
5.39	One Way ANOVA test for human capital, relational capital, managing and leveraging of intellectual capital and performance improvement against place of work	142
5.40a	One Way ANOVA test for structural capital against place of works	143
5.40b	One Way ANOVA test for structural capital against place of work (continue)	144
5.40c	One Way ANOVA test for structural capital against place of work (continue)	145
5.40d	One Way ANOVA test for structural capital against place of work (continue)	146
5.41a	One Way ANOVA test for spiritual capital against place of works	147
5.41b	One Way ANOVA test for spiritual capital against place of works (continue)	148
5.42a	One Way ANOVA test for knowledge management against place of works	149

5.42b	One Way ANOVA test for knowledge management against place of works (continue)	150
5.43	One Way ANOVA test for human capital, relational capital and managing and leveraging of intellectual capital against length of service	151
5.44a	One Way ANOVA test for structural capital against length of service	152
5.44b	One way ANOVA test for structural capital against length of service (continue)	153
5.45	One Way ANOVA test for spiritual capital against length of service	154
5.46a	One Way ANOVA test for knowledge management against length of service.	155
5.46b	One Way ANOVA test for knowledge management against length of service (continue)	156
5.47a	One Way ANOVA test for performance against length of service	157
5.47b	One Way ANOVA test for performance against length of service (continue)	158
5.48a	Summary of the variables tests against demographic items	159
5.48b	Summary of the variable tests against demographic items (continue)	160
5.48c	Summary of the variable tests against demographic items (continue)	161
5.49	Pearson Correlation between variables	166
5.50	Regression analysis for human capital, structural capital, relational capital to spiritual capital	166
5.51	Regression analysis for structural capital and relational capital to human capital	166
5.52	Regression analysis for relational capital to structural capital	167
5.53	Regression analysis for knowledge management and managing and leveraging of intellectual capital to human capital	167



5.54	Regression analysis for knowledge management and managing and leveraging of intellectual capital to structural capital	168
5.55	Regression analysis for knowledge management and managing and leveraging of intellectual capital to relational capital	168
5.56	Regression analysis for knowledge management and managing and leveraging of intellectual capital to spiritual capital	169
5.57	Regression analysis for knowledge management to managing and leveraging of intellectual capital	169
5.58	Regression analysis for human capital, structural capital, relational capital and spiritual capital to performance	170
5.59	Regression analysis for human capital, structural capital, relational capital and spiritual capital to performance – operating efficiency and business performances (profit, market share, revenue, CSI, products/services launch)	171
5.60	Regression analysis for human capital, structural capital, relational capital and spiritual capital to performance – organisational leadership and business leadership	172
5.61	Regression analysis for human capital, structural capital, relational capital, spiritual capital, knowledge management, management and leveraging of intellectual capital to performance	173
5.62	Regression analysis for human capital, structural capital, relational capital, spiritual capital, knowledge management, managing and leveraging of intellectual capital to performance – operating efficiency and business performances	174

5.63	Regression analysis for human capital, structural capital, relational capital, spiritual capital, knowledge management, management and leveraging of intellectual capital to performance – organisational leadership and business leadership	175
5.64	List of secondary data	180
5.65a	Salient features of secondary data	181
5.65b	Salient features of secondary data (continue)	182
5.66	List of interviewees	183
5.67a	Salient features of comments from interviewees that are directly related to subjects being studied.	184
5.67b	Salient features of comments from interviewees that are directly related to subjects being studied (continue)	185
567c	Salient features of comments from interviewees that are directly related to subjects being studied (continue)	186

## LIST OF FIGURES

<b>FIGURE NO.</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Metaphor of intellectual capital	23
3.1	The proposed “Intellectual Capital Central-Triangle” model	53
4.1	Knowledge claims, strategies of inquiry and methods leading to approaches and the design process	65
4.2	Research model	67
5.1	Path analysis of HC, SC, RC and SpC	176
5.2	Path analysis of HC, SC, RC, SpC and Performance(P)	176
5.3	Path analysis of HC, SC, RC, SpC and Performance – Operating Efficiency and Business Performances (OEBP)	177
5.4	Path analysis of HC, SC, RC, SpC and Performance – Organisational Leadership and Business Leadership (OBL)	177
5.5	Path analysis of HC, SC, RC, SpC, KM, MLIC and Performance – Operating Efficiency and Business Performances (OEBP)	178
5.6	Path analysis of HC, SC, RC, SpC, KM, MLIC and Performance – Organisational Leadership and Business Leadership (OBL)	178
5.7	Path analysis of HC, SC, RC, SpC, KM, MLIC and Performance (P)	179
5.8	Overall Path analysis amongst HC, SC, RC, SpC, MLIC, KM and Performance (P)	179

## LIST OF SYMBOLS/ABBREVIATIONS/NOTATION/TERMINOLOGY

AGM	-	Assistant General Manager
CEO	-	Chief Executive Officer
C&B	-	Consumer Business Sales
CKO	-	Chief Knowledge Officer
CMO	-	Change Management Office
CNO	-	Customer Network Operation
CTS	-	Corporate Strategy
Dev.	-	Development
ELDP	-	Executive and Leadership Development Program
GM	-	General Manager
HC	-	Human Capital
HQ	-	Headquarters
HR	-	Human Resource
HRD	-	Human Resource Development
HRM	-	Human Resource Management
HSC	-	Higher School Certificate
IC	-	Intellectual Capital
ISI 2020	-	Generic standards based on universal ethic, moral Values and on the tenets of Islam
KM	-	Knowledge Management
KPI	-	Key Performance Indicator
MAPS	-	Managing and Assessing Performance System
MBS	-	Major Business Sales
MLIC	-	Managing and Leveraging of Intellectual Capital
MSC	-	Multimedia Super Corridor
MTI	-	Malaysian Telecommunication Instructions
MCE	-	Malaysian Certificate of Education
MCM	-	Management Committee Meeting
MLDP	-	Management Leadership Development Program

MPP	-	Manual Prosedur Perniagaan
NITA	-	The National Information Technology Agenda
NWO	-	Network Operation
NWD	-	Network Development
OEBP	-	Operating Efficiency and Business Performance
OBL	-	Organisational Leadership and Business Performance
P	-	Performance
PGS	-	State of Penang
Potential M	-	Potential for Manager
QIBE	-	Quality Improvement and Business Excellence
RC	-	Relational Capital
SC	-	Structural Capital
SD	-	Standard Deviation
SGM	-	Senior General Manager
SMAC	-	Senior Management Assessment Centre
SMDP	-	Senior Management Development Program
SNO	-	State Network Operation
SPM	-	Sijil Tinggi Pelajaran
SpC	-	Spiritual Capital
STP	-	Sijil Tinggi Persekolahan
SVP	-	Senior Vice-President
TM	-	Telekom Malaysia
TMBEA	-	Telekom Malaysia Business Excellence Assessment
TSY	-	Telco Strategy
TTC	-	Telecom Training College
VP	-	Vice-President
VSS	-	Voluntary Separating Scheme.

**LIST OF APPENDICES**

<b>APPENDIX</b>	<b>TITLE</b>	<b>PAGE</b>
A	Cover Letter from Scholarship Division	256
B	Questionnaire Survey	257
C	Structured Interview Questions	271

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background**

The telecommunication industry has entered a very competitive environment for the past few decades and the industry has been deregulated. The Malaysian government has established a vision to be a developed nation by year 2020 and the deregulation of telecommunication services is one of the most important steps towards achieving that vision. The era when the Government, first through its Jabatan Telekom Malaysia, and then through Telekom Malaysia Berhad, held the monopoly over the telecommunication services effectively ended by 1992. Presently, there are four telecommunication services operators to serve the 25.58 million Malaysian populations as at December 2004 (Department of Statistic, Malaysia, 2004). At that same time, there were 4.60 million fixed telephone services, 11.43 million mobile services and 2.89 million dial-up internet customers (Malaysian Communication & Multimedia Commission, 2004).

To achieve the aspiration and realise the vision of making Malaysia a developed nation, and to survive in this highly competitive and challenging business environment, Telekom Malaysia has to be competitive, dynamic and robust. With the advancement made in the telecommunication technology, with the formation of various forms of business coalitions between local telecommunication services operators and other world-class telecommunication companies, the challenge for the business survival of Telekom Malaysia is inevitable. Thus Telekom Malaysia that holds 97% of the market share of the fixed telecommunication services, 39% of the mobile services and 54% of the internet customers in Malaysia customers (Malaysian Communication & Multimedia Commission, 2004) has to maximize the utilisation of Telekom Malaysia's

resources, especially its intellectual capital. Intellectual capital is defined as an identifiable non-monetary asset without physical existence held for use in the production or supply of products or services, for rental to others or for administrative purposes (IAS 38, 1998). As an established leader of the nation's telecommunication services industry, Telekom Malaysia's intellectual capital has grown, because it has been developed and nurtured for the past few decades.

In his keynotes address during Global Knowledge II Conference 2000, Dr. Mahathir Mohamad (2000), former Prime Minister of Malaysia says:

“Vision 2020 emphasizes that in the information age which we have entered – our society must be information rich. There was a time when land was the most fundamental basis for prosperity and wealth, then came the second wave, the age of industrialisation. Now, increasingly knowledge will not only be the basis of power but also prosperity...Through the shift to k-economy, where the knowledge content and the knowledge contribution will see a quantum leap in every area, the Malaysian economy and Malaysia's society will not be quite the same again”

Malaysia's development vision, as outlined in Vision 2020, is to become a fully developed nation with a “values-based society”. The National IT Agenda (NITA) interprets this, as the roles of information, knowledge and techno-preneurship are important to leapfrog the developmental stage from industrial economy to the K-economy. NITA's mission is “...knowledge must be translated into value and wealth-creation for the property of Malaysians” (Wan Mohamad, 1999). President and CEO of MIMOS Berhad Malaysia says:

“Malaysia needs to leverage on knowledge economy, where intellectual capital becomes a primary factor of growth. Because of this, the high density of the repositories of this intellectual capital, knowledge workers become vital to every country's success” (Shariffadeen, 2000).

Blair (2000) of Brooking Institute suggests that tangible assets have continued to tumble in value:

“If you just look at the physical assets of the companies, the things that you can measure with ordinary accounting techniques, these things now account for less than one fourth of the value of the corporate sectors.



Another way of putting this is that something like 75 percent of the sources of value inside corporations is not being measured or reported on their books”.

In yet another demonstration of the importance of intangible assets, the Sloan School of Management at MIT and the consulting firm Arthur Anderson recently announced the joint formation of the New Economy Value Research Lab – the think tank study – and develops quantitative valuations of the intangible assets Wall Streets finds increasingly important in the new economy. Lab co-chair, Boulton (2000) says:

“Even the Coca-Colas and Disney’s of the world are actually creating most of their value from assets that don’t appear on their Balance Sheets”.

The new knowledge economy places a high premium on human capital. Davenport (1999) cogently describes this new paradigm as, “People possess innate abilities, behaviours, personal energy and time. These elements make up human capital—the currency people bring to invest in their jobs. Workers not organizations own this human capital...and decide when, how and where they will contribute it.”

As a former government department, Telekom Malaysia has inherited the 28,000 employees, all the systems, technologies, business network and customers of Jabatan Telekom Malaysia. In 1996, the value of the human capital in Telekom Malaysia which in this case refers to only the salaries and allowances to the employees, stood at RM 836 million and in 2003, the value of its human capital was RM 1,412 million, an increase by 69% within seven years (Telekom Malaysia Annual Report, 1996, 2003). That is only in terms of salaries and allowances, how about long-term relationship, know-how and others? This means that the only way for Telekom Malaysia to have an edge over its competitors will be to develop and put greater use of its intellectual assets.

In this “new economy” or “knowledge economy” one principally driven by information and knowledge, the true value of Telekom Malaysia can only be achieved by developing its intellectual capital. This is the critical aspect of its present and future

value – no longer confined to the managing of network, systems and physical assets of Telekom Malaysia. Indeed, for the first time in business history, the workers, not the organization, owns the means of production, the knowledge and capabilities they possess and they decide how and where to apply it.

## **1.2 Research Problem**

In 2001, the nation's regulatory requirements have created five new-licensed telecommunication services operators. Accordingly, to remain competitive, Telekom Malaysia has reorganised itself into five major business groups to response to this new challenge. Also, under its "Change Program" Telekom Malaysia has spent a lot of effort, time, money and other related resources worth estimated at RM 10 million since 2001 to 2003 to provide the infrastructure and implementing projects and programs, such as employee training and development, customer relations management, quality improvement activities and culture transformation programs in order to achieve its vision (Telekom Malaysia, 2003). The vision is to become "The Communication Company of Choice", which focuses on delivering exceptional value to its customers and other stakeholders.

In attempting to achieve Telekom Malaysia's vision of being the communication company of choice, it faces these major-problems in the area of intellectual capital:

- (i) The deteriorating trend of fixed network telecommunication services customers and market share of telecommunication services. Could this be due to the degree of availability and utilisation of intellectual capital?
- (ii) The information on the effective management and leveraging of intellectual capital is either not available or not utilised for determining Telekom Malaysia's strategic direction. It's as if intellectual capital does not matter in the realisation of its business strategy.
- (iii) The influence of intellectual capital to Telekom Malaysia's performance, in the present as well as in the future competitive business environment and K-economy is not being addressed at all.

- (iv) The effectiveness in implementing the “Change Program” and the results from the budget spent, times and effort for the program and other related activities are not known for further actions and improvements.

Hence this study aims to address the importance of intellectual capital on the performance of Telekom Malaysia and this study also intends to show that the dimension of spiritual capital is integral to the development of intellectual capital that will contribute to the outstanding performance of Telekom Malaysia as proven in many ‘world-class’ corporations.

### **1.3 Research Objectives**

The purpose of this two-phase, sequential mixed methods case study will be to obtain statistical and quantitative results from a sample, secondary data and then follow up with few individuals to explore those results in more depth for following research objectives:

- (i) So far, few empirical studies of intellectual capital conducted such as by Bontis (1998), Youndt (1998), Bontis *et al.* (2001), Shook (2002) and Hayton (2002), provide some general evidence that intellectual capital or a component of intellectual capital is positively associated with measures of various organizational performance. In this study further investigation is to be done on the influence of intellectual capital on the performance of Telekom Malaysia specifically on the organizational and business leadership, operating efficiency and business performances through the ‘case study’ of Telekom Malaysia.
- (ii) It is also necessary to investigate the effect and influence of the newly defined 4<sup>th</sup> component of intellectual capital in this study – the ‘Spiritual Capital’ on the performance of an organization. This study is timely with the eagerness of all parties in Telekom Malaysia to know the results from the implementation of the ‘Change Management Program’ for the culture transformation of Telekom Malaysia, which started since year 2000.

- (iii) To identify what is the level of intellectual capital availability and which component of the intellectual capital has a more profound effect or critical influence on the performance of Telekom Malaysia.
- (iv) To investigate the importance of knowledge management, managing and leveraging of intellectual capital in Telekom Malaysia, to achieve business competitiveness, in the present and future business environment as well as to bring out relevant and significant performance improvement, in its critical business issues. The accurate information on the degree of effectiveness, in managing and leveraging of intellectual capital in Telekom Malaysia will form the major issues, for Telekom Malaysia to develop its strategy and future business direction.
- (v) To propose to Telekom Malaysia, to accept, adopt and apply the recommendations proposed in this study, with the appropriate modifications and business performance problems, as well as use them in their future business planning processes to their current management.

In the first phase, quantitative research questions with respondents from Telekom Malaysia's executives will address the relationship of intellectual capital, knowledge management, managing and leveraging of intellectual capital to Telekom Malaysia's performance. In the second phase, the secondary data will be analysed for the relationships and corroboration amongst variables in the survey, and qualitative methods will be used to probe significant quantitative results by exploring aspects of the whole relationships and corroboration of the research subject with the participation from higher management of Telekom Malaysia. Finally triangulation through the multiple data provides comprehensive perspectives of the research subject.

#### **1.4 Justification for Study**

The justifications for this study are:

- (i) Many of the past researchers in the field of intellectual capital have confined their efforts to only using mainly the quantitative research methodology. Very few have combined their studies with the case study approach, and very few still have used the mixed method methodology to

study this subject, to gain much deeper insights into the subject, to learn about the many idiosyncrasies within an organization that may hamper its prosper use, and the full benefits that an organization can benefit if it is used correctly.

- (ii) Although Gillett (2002) and Zohar (2004) use the term ‘spiritual capital’ in their articles and books, their spiritual term is not within the intellectual capital framework discussed in all the available literatures. A study on the subject does exist, but it is not done empirically. A case study is not done on the subject and as yet, there is no theoretical framework being offered to explain its conceptual framework. The present studies, give a comprehensive meaning to the term ‘spiritual capital’ as the 4<sup>th</sup> component of intellectual capital.
- (iii) The past studies mostly investigate the components of intellectual capital – human capital, structural capital and relational capital and their influence on performance. None of them has studied the importance of managing and leveraging the intellectual capital, only the components of intellectual capital themselves. The importance of managing and leveraging the intellectual capital becomes one of the major interests in this study. In general, this research offers significant contributions to the available literature on intellectual capital.
- (iv) There has been no study done on the intellectual capital available in Telekom Malaysia before this, whether on the level of its presence or it’s utilisation in the company neither for further planning and actions nor to leverage it to achieve all-rounds benefits for Telekom Malaysia. As explained earlier, despite the efforts, time, and other resources Telekom Malaysia has spent on its ‘Change Management Program’, the results have not seen favourable. Since intellectual capital could be effectively managed and leverage, for the improvement of Telekom Malaysia’s performance, this study is important and timely for Telekom Malaysia to gauge the effectiveness of the implementation of the change management program. This cost includes the professional fees for the consultants, producing the numerous reports generated by them and the various internal departments, benchmarking exercises, and other study groups, which should finally result in significant improvement to the performance of Telekom Malaysia.

- (v) As such this case study involves an investigation into the ‘what’, ‘how’ and ‘why’ such phenomena occur in Telekom Malaysia, the outcomes then will provide the necessary required strategies and actions to strengthen it’s capital management, to enable it to compete and succeed in the current and future competitive knowledge economy. Furthermore, since intellectual capital management involves every employee in Telekom Malaysia, it would be beneficial to ascertain whether the overall objective of its ‘Change Management Program’ has affected every employee in Telekom Malaysia and whether the expected ‘change’ will be achieved, sustained and improved in the future.

## **1.5 Organization of Thesis**

The whole thesis comprises five chapters. Chapter 1 introduces the research problem and objectives of the study. Chapter 2 presents the related literatures on intellectual capital management and knowledge management. Chapter 3 presents the development of a new model of intellectual capital by including the spiritual capital. Chapter 4 discusses the research design and methodology used in the study. It covers the theoretical framework and data collection processes. Chapter 5 talks about the analyses and discussion done on the data collected from the survey conducted, other secondary sources referred to and from the interviews conducted. The result – in the forms of descriptive statistic, as well as, the explanations on the relationships amongst the variables identified in the theoretical framework – is presented. Finally, Chapter 6 concludes the thesis by discussing the benefits of this study to Telekom Malaysia, followed by conclusion of this study, its limitations and some suggestions for further research to follow and finally the recommendations to Telekom Malaysia, as to what it can gain from these findings, to enhance its competitiveness.

## 1.6 Key Definitions and Concepts:

“Intellectual capital”(IC) is defined as an identifiable non-monitory asset without physical existence held for use in the production or supply of products or services, for rental to other administrative purposes. There are four components of intellectual capital:

- (i) “Human capital” (HC) is the ‘tangible’ tacit knowledge embedded in the minds of individuals which include employee competence, know how, education, innovativeness, capabilities, work related knowledge and changeability.
- (ii) “Structural capital” (SC) is the organizational capabilities and routines in performing business which include organizational structures, operating manual and procedures, databases, documents, information system, networking system, research and development capabilities, patents, copyright and trade marks, system and technologies.
- (iii) “Relational capital” (RC) is the relationship between the organization and the outside environment, which includes alliances, and relationship with customers, partners, suppliers, investors, franchiser, distribution networks, government bodies and agencies, image and brand, communities, public and environment.
- (iv) “Spiritual capital” (SpC) is the “intangible knowledge”, faith, belief and emotion embedded in the minds and hearts of individuals and in the heart of organization, which includes vision and direction, principles, values and culture. The individual and organization behave and act with honor, integrity, sincerity, honesty, truth, trust, love, moral and ethic. It also includes motivation, self-esteem, courage, strength, commitment, teamwork, determination, desire, enthusiasm and team spirit. It focuses on interrelationships, interconnectedness and interdependency for sustainable development with the view to achieve final prosperity and happiness for all. It governs how the other three capitals should be used.

## **Summary**

Telekom Malaysia has inherited many systems, technologies, types of business network, customers and 28,000 employee of Jabatan Telekom since 1996. As at 31<sup>st</sup> December 2004 Telekom Malaysia had 20,000 employees, 4.6 million of fixed network customers supported by various systems and technologies. In order to be competitive in the present business and in the ‘knowledge economy’, the only way for Telekom Malaysia to do so, is to have an edge over its competitors by developing and leveraging its intellectual capital. Intellectual capital consist of – human capital, relational capital, structural capital and the newly proposed component, spiritual capital.

This study aims to address the importance of intellectual capital on the performance of Telekom Malaysia and intends to show that the dimension of spiritual capital is integral to the development of intellectual capital that will contribute to the outstanding performance of Telekom Malaysia. This has been proven in many world-class organizations. This study also will identify what is the level of intellectual capital availability and which component has a more profound effect on the performance of Telekom Malaysia, the importance of knowledge management and managing and leveraging of intellectual capital on the Telekom Malaysia’s performance.



## References

- Abdullah A. (1995). *Going Glocal, Cultural Dimension In Malaysian Management*. Kuala Lumpur: Malaysian Institute of Management.
- Abdul Rahman A.P.(2004). Value-Based Total Performance – The Industry’s Acceptance and Its Implementation. *International Seminar on Value-Based Total Performance*. 1-2 July 2004. Kuala Lumpur: Institute of Islamic Understanding Malaysia.2004
- Abu Hamid Al-Ghazali (1975). “*Ihya Ulumuddin*”. Kaherah: Darul Shaab
- Adler P. and Kwon S.W. (1999). “*Social capital, The Good, The Bad and The Ugly*” Marshall School of Business, University of Southern California, United States. Social Science Research Network (Working Paper Series).“unpublished”.
- Al-Buraey M.A. (2004). The impact of Value-Based Managerial Leadership On The Development Of Ummah In Islamic Countries. *International Seminar on Value- Based Total Performance*. 1-2 July 2004. Kuala Lumpur: Institute of Islamic Understanding Malaysia.
- Al-Ghazali (1992). *Penenang Jiwa.Pengubatan & Rawatan*. Kuala Lumpur: Thinker’s Library Sdn.Bhd.
- Al-Habshi S.O. (1994). Islamic values. Its universal nature and applicability in Al-Habshi S.O and Ghazali A. ed. (1994). *Islamic Values & Management*. Kuala Lumpur: Institute of Islamic Understanding Malaysia. 7 – 21.
- Allee V. (2000). The Value Evolution, Addressing Larger Implications of an Intellectual Capital and Intangible Perspective, *Journal of Intellectual Capital*, Vol.1, No.1:17-32.
- Allee V. (2003). *The Future of Knowledge Increasing Prosperity Through Value Networks*. United States: Butterworth-Heinemann
- Amidon M. D. (2003). *The Innovation Superhighway*. United States: Butterworth-Heinemann.
- Andriessen D. & Tissen R. (2000). *Weightless Wealth; Find Your Real Value in a Future of Intangible Assets*. London: Financial Times Prentice Hall.
- Andriessen D. (2001). Weightless Wealth: Four Modifications to Standard IC Theory, *Journal of Intellectual Capital* Vol. 2 No.3: 204-214.
- Bartunek, J, M, & Moch, M.K. (1996). Third Order Change & the Western Mystical

- Tradition. *Journal of Organizational Change Management*, 7(1): 24-41
- Beekun R.I. (1997). *Islamic Business Ethics*. United States: The International Institute of Islamic Thought.
- Bethune G. & Huler S. (1998), *From Worst to First, Behind the Scene's of Continental's Remarkable Comebacks*. New York: John Wiley & Sons, Inc.
- Bigger S. and Brown E. (1999). *Spiritual, Moral, Social and Cultural Education: Exploring Values in the Curriculum*. London: David Fulton publishers Ltd.
- Bierly III P.E and Daly P. (2002). Aligning Human Resource Management Practices and Knowledge Strategies, A Theoretical Framework. In: Choo C. W. and Bontis N. *The Strategic Management of Intellectual Capital & Organisational Knowledge*. New York: Oxford University Press, Inc. 277 – 295.
- Blair M.M. and Kochan T.A. (2000). *The New Relationship: Human Capital in the American Corporation*. United States: The Brooking Institution Press.
- Blancard K. and Hodges P. (2003). *The Servant Leadership. Transforming Your Heart, Head, Hands & Habits*. Tennessee: J. Countryman.
- Bontis N. ed. (2002). *World Congress on Intellectual Capital Reading*. United States: Butterworth-Heinemann.
- Bontis N. (2001), Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing & Advancing the State of the Field. In: Choo C. W. and Bontis N. eds.(2003) *The Strategic Management of Intellectual Capital & Organisational Knowledge*. New York: Oxford University Press, Inc. 621-642.
- Bontis Nick (1998), Intellectual Capital: An Exploratory Study That Develops Measures and Models, *Management Decision*. 36/2 (1998): 63-76.
- Bontis N. (1999). *Managing and Organising Learning System by Aligning Stocks and Flows of Knowledge: An Empirical Examination of Intellectual Capital, Knowledge Management and Business Performance*. University of Western Ontario: PhD. Thesis.
- Bontis N., Keow W.C.C. & Richardson S. (2000). Intellectual Capital and Business Performance in Malaysian Industries. *Journal of Intellectual Capital*. Vol.1, No.1: 85-100.
- Broggs, John and F. David Peat (1989). *Turbulent Mirror: An Illustrated Guide to Chaos Theory and the Science of Wholeness*. New York: Harper and Row
- Brooking A (1996). *Intellectual Capital, Core Asset for the Third Millennium*

- Enterprise*. London: International Thomson Business Press.
- Buckman R.(2002). “Building The Knowledge Driven Organisation”.  
*Knowledge Management Asia 2002*. 16-18.7.2002. Singapore: Arkgroup Asia.
- Burack E.H. (1999), Spirituality in the Workplace, *Journal of Organizational Change Management* Vol.12 No.4: 280-291
- Butts D. (1999). Spirituality at work: an overview. *Journal of Organisational Change Management*. Vol.12 No.4: 328-331.
- Buzan T. (2001). *The Power of Spiritual Intelligence*. London: Harper Collins Publishers Ltd.
- Cacioppe R. (2000). Creating spiritual at work: re-visioning organisation  
Development and leadership – Part 11. *Leadership & Organisation Development Journal*. 21/2 (2000): 110-119.
- Caddy Ian (2000) Intellectual Capital; Recognizing Both Assets and Liabilities,  
*Journal of Intellectual Capital*, Vol.1, No.2: 129-146
- Canibano L., Garcia-Ayuso M., Sanchez M.P. (2000). “Accounting for intangibles: A literature review”. *Journal of Accounting Literature*. Vol. 19: 102-30.
- Capra, F. (1996). *The Web of Life*. New York: Anchor Books.
- Capra, F. (2003).*The Hidden Connection*. London: HarperCollins Publishers Ltd.
- Capra, F. and Rast D.S. (1991). *Belonging to the Universe: Explorations on the Frontiers of Science and Spirituality*. San Francisco: Harper San Francisco.
- Cashman K. with Jack F. (2003). *Awakening the Leader Within, A Story of Transformation*. New Jersey: John Wiley & Sons Inc.
- Cavanagh F.F. (1999). Spirituality for managers: context and critique. *Journal of Organisation Change Management*. Vol.12 No.3: 186-199.
- Chatzkel J. (2002). *Intellectual Capital*. United Kingdom: Capstone Publishing
- Chatzkel J. (2003). The collapse of Enron and the role of IC. *Journal of Intellectual Capital*, Vol. 4, No.2: 127-143.
- Chatterjee D. (1998). *Leading Consciously: A Pilgrimage Toward Self-Mastery*.  
United States: Butterworth-Heinemann Publications
- Chief Seattle (1854). Chief Seattle in Bloom W. ed. (2000). *Holistic Revolution, the essential new age reader*. England: Allen Lane The Penguin Press.99 - 102
- Choo A. S. C. (2003). *Knowledge Creation Using a Structured Improvement Approach: Toward an Integration of Quality and Knowledge*. University of

- Minnesota: PhD. Thesis.
- Choo C.W. and Bontis N. eds. (2002), *The Strategic Management of Intellectual Capital and Organisational Knowledge*. United States: Oxford University Press.
- Chung T.C. ed. (1991). *The Art of War*. Singapore: Asiapac Books & Educational Aids (S) Pte Ltd
- Collin J.C. & Porras J.I. (1997). *Built To Last; Successful Habits of Visionary Companies*. New York: Harper Business.
- Covey S.R. (1989). *The Seven Habits of Highly Effective People, Powerful Lessons in Personal Change*. New York: Simon & Schuster
- Covey S.R. (1992). *Principle Centred Leadership*. New York: First Fireside.
- Creswell J.W. (2003). *Research Design. Quantitative, Qualitative & Mixed Method Approaches*. 2<sup>nd</sup> edition. United States: SAGE Publications
- Crossan M. and Hulland J. (2000). Leveraging Knowledge Through Leadership of Organisational Learning. In: Choo C. W. and Bontis N. *The Strategic Management of Intellectual Capital & Organisational Knowledge*. New York: Oxford University Press, Inc. 711 – 724.
- Davernport H.T. & Prusak L. (1998). *Working Knowledge How Organisations Manage What They Know*. United States: Harvard Business School Press.
- Davernport H.T. (1999). *Human Capital: What It Is and Why People Invest It (Jossey-Bass Business & Management Series)*. San Francisco: Jossey-Bass Publishers.
- Davis J. L. & Harrison S. S. (2001). *Edison in the Boardroom. How Leading Companies Realise Value from their Intellectual Assets*. New York: John Wileys & Sons, Inc.
- Dehler, G.E. & Welsh, M.A. (1994). Spirituality and Organizational Transformation: Implication for the New Management Paradigm. *Journal of Managerial Psychology*. 9(6): 17-26.
- Delbecq, L.A. (1999). Christian Spirituality and Contemporary Business Leadership. *Journal of Organizational Change Management*. Vol.12 No.4: 345-349.
- Denscombe M. (1998). *The Good Research Guide, For Small-Scale Social Research Projects*. Buckingham: Open University Press.
- Denscombe M. (2002). *Ground Rules for Good Research. A 10 Point Guide for Social Researchers*. England: Open University Press

- Devall B. & Sessions G. (1986). *Deep Ecology*. United States: Gibbs Smith Publisher.
- Despain J. and Converse B. J. (2003). *...And Dignity for All, Unlocking Greatness with Values-Based Leadership*. New Jersey: Financial Times Prentice Hall.
- DePree M. (1993). *Leadership Jazz*. New York: Dell Publishing (reprint edition).
- DePree M. (1989). *Leadership Is an Art*. New York: Doubleday
- Edvinson L. (1997). "Developing intellectual capital at Skandia". *Long Range Planning* Vol. 30 No. 3: 266 – 273
- Edvinson L. & Malone M.S. (1997). *Intellectual Capital: Realising Your Company's True Value by Finding Its Hidden Brainpower*. New York: HarperBusiness.
- Emmons R.A. (2000). "Is Spirituality an Intelligence" motivation, cognition, and the psychology of ultimate concern". *The International Journal for the Psychology of Religion*, Vol.10 No.1: 3-26
- Felkins P.K., Chakiris B.J., Chakiris k.N. (1993). *Change Management, A Model For Effective Organisational Performance*. New York : Quality Resources
- Fornaciari C.J. (2001). Making the quantum leap, lessons from the physics on Studying spirituality and religion in organisation. *Journal of Organisational Change Management*. Vol.14. No. 4: 335-351.
- Fritzsche D.J. (1996). *Business Ethics, A Global and Managerial Perspective*. (McGraw-Hill Series in Management). New York: The McGraw-Hill Companies, Inc.
- Frost, P.J. & Egri, C.P. (1994), The Shamanic Perspective on Organizational Change & Development, *Journal of Organizational Change Management*, 7(1): 7-23
- Gardner H. (1999). *Intelligence Reframed; Multiple Intelligence for the 21<sup>st</sup> Century*. New York: Basic Book.
- Gerstner L. V.Jr. (2002). *Who Says Elephant Can't Dance? Inside IBM's Historic Turnaround*. San Francisco: Harper Business.
- Gillett D. (2002). *Spiritual Capital: Building Vibrant Business that Serve Shareholders & Humanity*. United States: Institute of Human Economics.
- Goleman D. (1996). *Emotional Intelligence. Why It Can Matter More Than IQ*. London: Bloomsbury Published Plc.
- Goleman D. (1999). *Working with Emotional Intelligence*. New York: Bantam Books.
- Gomez E.T. and K.S. Jomo (1999). *Malaysia's Political Economy: Politics, Patronage & Profits*. 2<sup>nd</sup> edition. Cambridge: Cambridge University Press.

- Grafstrom G and Edvinson L. (1999). *Accounting for Minds. An Inspirational guide to Intellectual Capital*. Sweden: Skandia publication.
- Grand R.M. (1996). "Toward a knowledge-based theory of firm". *A Strategic Management Journal*. Vol.17: 109-122.
- Gravan T.N., Morley M., Gunnigle P. & Collins E. (2001). Human Capital Accumulation ; The Role of Human Resource Development, *Journal of European Industrial Training* 25/2/3/4(2002) : 48 - 68
- Gray D. (1999). *Intellectual Capital, Measuring and Enhancing the True Value of Your Business*. London: Financial Times-Prentice Hall.
- Gurnani H. (1999). Pitfalls in total quality implementation. The case study of Hong Kong Company. *Total Quality Management*. Vol.10 No.2: 209-228
- Haanes K. and Lovendahl B. (1997). " The unit of activity: towards an alternative to theories of the firm, structure and style". In: Thomas H., O'Neal D., Ghertman M. eds. (1997). *Strategy, Structure, Style*. Copenhagen: John Wiley & Sons. John Wiley & Sons Ltd,
- Haines S.G. (2000). *The Complete Guide to Systems Thinking & Learning*. United States: HRD Press.
- Hair J.F., Anderson R.E., Tatham R.L., Black W.C. (1998). *Multivariate Data Analysis*, 5<sup>th</sup> edition. New Jersey: Prentice-Hall International, Inc.
- Hakim C. (1987). *Research Design: Strategies and Choices in the Design of Social Research*. London: Allen and Unwin Pty.
- Hall Brian P. (1998). Culture and Values Management: Context for the Development and Measurement of Intellectual Capital. In: Sullivan Patrick H. *Profiting from Intellectual Capital*. New York: John Wileys & Sons, Inc. 43-58
- Hall M. L.W. (1998). The Confusion of the Capitals: Surveying the Cluttered Landscape of Intellectual 'Capitals' and Terminology. In: Sullivan Patrick H. *Profiting from Intellectual Capital*. New York: John Wileys & Sons, Inc. 76-83
- Hamel G. (2002). *Leading the Revolution, How to Thrive in Turbulent Times By Making Innovation a Way of Life*. New York: Penguin Group.
- Harris J. & Brannick J. (1999). *Finding & Keeping Great Employees*. New York: Amacom.
- Hassan M.A. (1992). *The Tawhidic Approach in Management & Public Administration. Concepts, principles & an alternative model*. Kuala Lumpur:

- National Institute of Public Administration Malaysia.
- Hayton J. C. (2002). *The Effect of Intellectual Capital on Entrepreneurial Orientation in High Technology New Ventures*. Georgia State University, Atlanta: PhD. Thesis.
- Howard S. (2002). A Spiritual Perspective on Learning in the Workplace. *Journal of Managerial Psychology*. Vol. 17 No.3: 230-242.
- Hudson W. (1993). *Intellectual Capital: How to build it, enhance it, use it*. New York: John Wiley & Sons.
- Hussey J. and Hussey R. (1997). *Business Research. A Practical Guide for Undergraduate and Postgraduate Students*. London: Macmillan Press Ltd.
- International Accounting Standard Committee (1998), *International Accounting Standard, Intangible Assets*. London: IASC No.38.
- Iowe J. (1998). *Wisdom from the World's Greatest Business Leaders*. New York: John Wiley & Sons, Inc.
- Itami H. and Roehl T.W.(1991). *Mobilising Invincible Assets*. Cambridge: Harvard University Press (reprint edition)
- Jabnoun N. (2004). The Roles of Values in Enhancing Organisational Performance. *International Seminar on Value-Based Total Performance*. 1-2 July 2004. Kuala Lumpur: Institute of Islamic Understanding Malaysia.
- Jaworski, B.J. and Kohli, A.K.(1993). "Market orientation: Antecedents and consequences", *Journal of Marketing*, (July) 1993: 53-70.
- Jennings M.M. (2002). *Business Ethics: Case Studies and Selected Readings*. 3<sup>rd</sup> edition. United States: West Educational Publishing Company.
- Kaplan R.S. & Norton D.P. (1996). *The Balanced Scorecard*. United States: President & Fellows of Harvard College.
- Kathleen M.E. (1998). Building Theories From Case Study Research. *Academy of Management Review*. Vol.4, No.4: 532 –520.
- Kim H.D. (1999). *Introduction to System Thinking*. United States: Pegasus Communication, Inc.
- Kinnear P.R. & Gray C.D. (2000) *SPSS for Windows Made Simple, Release 10*. United Kingdom: Psychology Press Ltd.
- Klein D.A. ed. (1998). *The Strategic Management of Intellectual Capital*. United States: Butterworth-Heinemann.
- Konz G.N.P. and Ryan F.X. (1999). Maintaining an organisational spirituality:

- No easy task. *Journal of Organisational Change Management*.  
Vol. 12 No.3: 200-210.
- Kooistra J.V. D.M. & Zijlstra S.M. (2001). Reporting on Intellectual Capital  
*Accounting, Auditing & Accountability Journal*. Vol. 14 No.4: 456-476
- Korac-Kakabadse N., Kouzmin A., Kakabadse A. (2002). Spirituality and leadership  
*Praxis: Journal of Managerial Psychology*. Vol. 17 No. 3: 165-182.
- Lee M. (1991). Spirituality in organisation: Experiment and purpose. *Management  
Education and Development*. Vol.22 No.3: 221-226
- Lesser L.E. ed. (2000), *Knowledge and Social Capital, Foundation & Application*.  
United State: Butterworth-Heinemann.
- Libert B.D, Samek S.M., Boulton R.E.S. (2000). *Cracking the Value Code:  
How Successful Businesses are Creating Wealth in the New Economy*. New York:  
Harper Collins publishers Inc.
- Leigh P. (1997): “The new spirit at work”. *Training and Development*. Vol.51  
No.3: 26-32
- Lips-Wiersma M. (2002). The influence of spiritual “meaning-making” on career  
Behaviour. *Journal of Management Development*. Vol.21 No. 7: 497-520.
- Lucas J.R. (1999). *The Passionate Organization*. New York: Amacom.
- Lopez S.R. (2003). Culture as a Determining Factor of Organisational Learning.  
*24<sup>th</sup> McMaster World Congress 2003*. 15 – 17 January 2003.  
Hamilton: McMaster World Congress.
- Lovelock, J. (2000). *Gaia; A New Look at Life on Earth*, 3<sup>rd</sup> edition. New York:  
Oxford University Press.
- MacDougall S. & Hurst D. (2002). For Better Or Worse? Assessing the Costs and  
Benefit of Contingent Knowledge-Work as an Investment in Intellectual Capital.  
In: Bontis N. ed. *World Congress on Intellectual Capital Readings*. United States:  
Butterworth-Heinemann. 287-305.
- Malaysian Communication & Multimedia Commission. Country Status Update  
Report – Malaysia. Asian Info-Communications Council 30<sup>th</sup> Conference.  
12 – 16 April 2004. Kuala Lumpur. Asian Info- Communication Council. 2004.  
Document no. 82.
- Manz C.C. (2003). *Emotional Discipline, The Power to Choose How You Feel*  
San Francisco: Berrett-Koehler Publishers, Inc.



- Marr B., Schiuma G. & Neely A. (2002), Assessing strategic knowledge assets in e-business, *International Journal of Business Performance Management*. Vol.4, No.2/3/4: 279 - 295.
- Marr B., Schiuma.G. & Neely A. (2003). *The Dynamic of Value Creation-Mapping Your Intellectual Performance Drivers*. The Centre for Business Performance, Cranfield School of Management. "Unpublished"
- Mason J.M. (2003). Organisation Culture for Change: Innovation and Intellectual Capital. *24<sup>th</sup> McMaster World Congress 2003*. 15 – 17 January 2003. Hamilton: McMaster World Congress.
- Maslow A.H. (1987), *Motivation and Personality*, 3<sup>rd</sup> edition. New York: Harper Collins Publishers.
- Mathison S. (1988). "Why Triangulation?". *Educational Research*. 17: 13-17
- Mayo A. (2000). The role of employee development in the growth of intellectual capital. *Personnel Review* .Vol. 29 No.4: 521-533.
- McElroy M.W. (2002). Social Innovation Capital. *Journal of Intellectual Capital*. Vol.3, No.1: 30-39
- McElroy M.W. (2002). Ethics, innovation and the open enterprise. *Knowledge Management Magazine*. Vol. 6, issue 1: 15-18.
- McElroy M.W. (2003). *The New Knowledge Management Complexity, Learning and Sustainable Innovation*. United States: Butterworth-Heinemann.
- McGrath A.E. (1999). *Christian Spirituality. An Introduction*. Oxford: Blackwell Publishers.
- Merriam S.B. (1997). *Qualitative Research and Case Study Application in Education*. San Francisco: Jossey-Bass.
- Mahathir Mohamad (2000). Keynote Address – 'Building Knowledge Societies: Access –Empowerment – Governance'. *2<sup>nd</sup> Global Knowledge Conference*. 7<sup>th</sup> - 10<sup>th</sup> Mac 2000. Kuala Lumpur. *2<sup>nd</sup> Global Knowledge Conference*.
- Mouritsen (1998). "Driving growth: Economic value added verses intellectual capital". *Management Academy Research*. Vol. 9, No.4: 461-483.
- Mouritsen J., Larsen H.T, Bukh P.N. & Johanson M.R. (2001). Reading on Intellectual Capital Statement. *Journal of Intellectual Capital*. Vol.2, No.4: 359-383.
- Mouritsen J & Larsen H.T. (2001). Valuing the Future: Intellectual Capital

- Supplements at Skandia. *Accounting, Auditing & Accountability Journal*.  
Vol.14, No.4: 399-422.
- Moxley R.S. (2000). *Leadership and Spirit (Jossey-Bass Business an Management Series and the Centre for Creative Leadership)*. San Francisco: Jossey- Bass.
- Mukerjea D. (2001). *Surfing The Intellect, Building Intellectual capital for a Knowledge Economy*. Singapore: The Brainware Press.
- Narver, J.C. and Slater, S.F. (1990). The effect of a market orientation on business profitability, *Journal of Marketing*. (October), 1990: 20-35
- Neal J.A., Lichtenstein B.M.B., Banner D. (1999). Spiritual perspective on individual, Organisational and societal transformation. *Journal of Organisational Change Management*. Vol.12 No.3: 175-185.
- Nik Hassan N. M. (1998). The Principle for “New Organisations”: A Requirement for The Next Millineum. In: Abdullah M., Husain N., Nik Hassan N. M., Musa M. eds. (2003). *Essays on Islamic Management & Organisational Performance Management*. Kuala Lumpur: Institute of Islamic Understanding Malaysia. 3 – 24.
- Nik Hassan N.M ed. (2003). *Values-Based Management, The Way forward for the Next Millenium*. 2<sup>nd</sup> edition. Kuala Lumpur: Institute of Islamic Understanding Malaysia.
- Nik Hassan N. M., Salleh S.H.S.S.M. eds. (2002). *Corporate Governance From The Islamic Perspective*. Kuala Lumpur: Institute of Islamic Understanding Malaysia.
- Nik Hassan N. M. (2004). Value-Based Total Performance – The Relevance of Islamic Values for Organisational Performance. *International Seminar on Value-Based Total Performance*. 1-2 July 2004. Kuala Lumpur: Institute of Islamic Understanding Malaysia.
- Nonaka I. & Takeuchi H. (1995). *The knowledge creating company*. New York: Oxford University Press.
- Noor I. (1999). *Prophet Muhammad ‘s Leadership. The Paragon of Excellence Altruistic Management. A cross- application to modern management & leadership practice*. Kuala Lumpur: Utusan Publications & Distributors Sdn. Bhd.
- Organisation for Economic Co-operation and Development (OECD) (1999). “ Guidelines and instruction for OECD Symposium”. International Symposium Measuring and Reporting Intellectual Capital: Experience, Issues and Prospect. 9 –10 June 1999, Amsterdam. Paris: OECD.

- Olve K.G., Roy J., Wetter M. (1999). *Performance Drivers: A Practical Guide to Using the Balanced Scorecard*. England: John Wileys & Sons Ltd.
- Petty R. & Guthrie J. (2000). Intellectual Capital Literature Review: Measurement, Reporting and Management. *Journal of Intellectual Capital* Vol 1 No.2: 155-176.
- Pokora R.M. (1997). Defining Spirituality: A call for dialogue. Conference of the National Communication Association, Chicago. "unpublished"
- Porth S.J., McCall J, Bausch T.A. (1999). Spiritual themes of the "learning organisation". *Journal of Organisational Change Management*. Vol.12 No.3:211-220.
- Robson C. (2002). *Real world Research: A Resource for Social Scientist & Practitioners-Researchers* 2<sup>nd</sup> edition. Oxford: Blackwell Publishers.
- Roos J., Roos G., Dragonetti N.C., Edvinson L. (1997). *Intellectual Capital: Navigating in the New Business Landscape*. London: Macmillan
- Saint-Onge H. (1996). "Tacit knowledge: The key to strategic alignment of intellectual capital". *Planning Review*. Vol. 24, No.2: 10-14
- Saint-Onge H.(2002). "Knowledge & Learning – The Two Sides of One Coin". *Knowledge Management Asia 2002*. 16-18.7.2002. Singapore: Arkgroup Asia.
- Salam S. (1981). *Imam Ali – Hero of the People*. Singapore: Al-Haramain Pte.Ltd.
- Sass J.S. (2000). Characterizing Organizational Spirituality: An Organisational Communication Culture Approach. *Journal of Communication Studies*. Fall 2000,V51 i3: 195-206.
- Saunders M., Lewis P., Thornhill A. (1997). *Research Methods for Business Studies*. London: Pitman Publishing.
- Sekaran U. (1992). *Research Methods for Business. A Skill Building Approach*, 2<sup>nd</sup> edition. New York: John Wileys & Sons, Inc.
- Seligman Dan (2002). Maximizing Shareholder Value? *The Star Newspaper, Malaysia*. October 26, 2002.. Kuala Lumpur: The Star Newspaper.
- Senge P.M. (1994). *The Fifth Discipline, The Art & Practice of The Learning Organisation*. New York: Doubleday.
- Senge P.M., Kleiner A., Roberts C., Ross R., Smith B. (1994). *The Fifth Discipline Fieldbook*. New York: Doubleday.
- Senge P.M., Kleiner A., Roberts C., Roth G., Ross R., Smith B. (1999). *The Dance of Change: The Challenges of Sustaining Momentum in Learning Organisation*.

- New York: Doubleday.
- Shariffadeen T.M.A.(2000)On The Changing World. 2<sup>nd</sup> *Global Knowledge Conference*. 7<sup>th</sup> -10<sup>th</sup> Mac 2000. Kuala Lumpur. Global Knowledge Conference.
- Shell (2001). *People, Plant, and Profits: An Act of Commitment*. London: Shell Group of Companies
- Shook Shane D.(2002). *Analyst and Investment Broker Attitude of Intellectual Capital Value*. Capella University: PhD. Thesis.
- Smith M.E., Thorpe R., Lowe A. (1991). *Management Research, An Introduction*. London: SAGE Publications.
- Snowden D. (2002). Complex Acts of Knowing: Paradox and Descriptive Self-Awareness: *Knowledge Management Asia 2002*. 16-18.7.2002. Singapore: Arkgroup Asia.
- Skandia (1994). Visualising Intellectual Capital in Skandia. A supplement to Skandia's 1994 Annual Report. Sweden: Skandia.
- Spears C. L. (1995). *Reflection on Leadership*. New York: John Wiley & Sons Inc.
- Spears, C.L. and Frick, M.D. (1996). *On Becoming a Servant-Leader*. San Francisco: Jossey-Bass Inc.
- Stacey R.D. (1992). *Managing the Unknowable: Strategic Boundaries Between Order and Chaos of Organisation (Jossey-Bass Management Series)*. San Francisco : Jossey-Bass.
- Stauffer D. (2000). *Business the Cisco Way, Secret of the Company that Makes the Internet*. United kingdom: Capstone Publishing Ltd.
- Steward T.A. (1997). *Intellectual Capital; The New Wealth of Organization*. New York: Doubleday
- Steward T.A. (2001). *The Wealth of Knowledge*. Great Britain : Nicholas Brealey Publishing.
- Sukumarakurup K. & Neck P.C. (2002). The "what", "why" and "how" of Spirituality in the Workplace. *Journal of Managerial Psychology*. Vol.17 No.3: 153-164.
- Sullivan P.H. (1998). *Profiting from Intellectual Capital; Extracting Value from Innovation*. New York: John Wiley & Sons Inc.
- Sveiby K. E. (1989). *The Invincible Balance Sheet*. Stockholm: The Konrad Group.
- Sveiby K. E. (1997). *The New Organisational Wealth, Managing & Measuring Knowledge-Based Assets*. San Francisco: Berrett-Koehler Publishers, Inc.

- Sveiby K.E. (2001). A Knowledge-Based Theory of the Firm to Guide in Strategy Formulation. *Journal of Intellectual Capital*. Vol. 2 No.4: 344-358.
- Sveiby K.E. (2003). Strategy in the Knowledge Economy, Business as if Knowledge Matters. *24<sup>th</sup> McMaster World Congress 2003*. 15 – 17 January 2003. Hamilton: McMaster World Congress.
- Taylor S.J. and Bogdan R. (1998). *Introduction to Qualitative Research Methods, A Guidebook and Resources*, 3<sup>rd</sup> edition. New York. John Wiley & Sons.
- Teece D.J. (1998). “ Capturing value from knowledge assets, the new economy markets for know-how and intangibles assets”. *California Management Review*. Vol. 40 No.3: 55-79
- Telekom Malaysia Annual Report 1996*. Kuala Lumpur: Telekom Malaysia.
- Telekom Malaysia Annual Report 2003*. Kuala Lumpur: Telekom Malaysia.
- The Islamic Foundation (1992). *Islam The Essentials*. United Kingdom: The Islamic Foundation.
- Thielan D. (1999). *The 12 Simple Secrets of Microsoft Management*. New York: McGraw Hill.
- Teleos (2000). *2000 Global MAKE Report*. Teleos. “unpublished”
- Teleos (2001). *2001 Global MAKE Report*. Teleos. “unpublished”
- Teleos (2002). *2002 Global MAKE Report*. Teleos. “unpublished”
- Teleos (2003). *2003 Global MAKE Report*. Teleos. “unpublished”
- Tischler L. (1999). The growing interest in spirituality in business, a long-term Socio-economy explanation. *Journal of Organisational Change Management* Vol. 12 No. 4: 273-279.
- Tischler L., Biberman J., McKeage R. (2002). Linking Emotional Intelligent, Spirituality and Workplace Performance: Definitions, models and ideas for research, *Journal of Managerial Psychology*, Vol. 17, No.3: 203-218.
- Torstiga G. and Birchall D.W. Knowledge in Organisations: The Impact Of Tribal Organisational Structures. *24<sup>th</sup> McMaster World Congress 2003*. 15 – 17 January 2003. Hamilton: McMaster World Congress.2003
- Trout J. with Rivkin S.(2000). *Differentiate or Die, Survival in Our Era of Killer Competition*. New York: John Wiley & Sons, Inc.
- Velasquez M.G. (1998). *Business Ethics; Concepts and Cases*, 4<sup>th</sup> edition. New York: Prentice Hall.

- Wagner M.F. and Conely, J. (1999). The Fourth Wave; The Spirituality Based Firm. *Journal of Organizational Change Management*. Vol.12, No.4: 291-301.
- Wallace J. & Erickson J. (1992). *Hard Drive: Bill Gates & the Making of the Microsoft Empire*. New York: Harper Business.
- Walker D.C. (2001). *Exploring the Human Capital Contribution to Productivity Profitability and Market Evaluation of the Firm*. Webster University: DBa. Thesis.
- Wan Mohamad W.L.(1999).The K-Economy: A Competitiveness Architecture. *First K-economy Workshop*. June 1999. Kuala Lumpur: The National Information Technology Council Malaysia Publication.
- Wheatley M. J. (1999) *Leadership and the New Science, Discovering order in a Chaotic World(Revised)*. San Francisco: Berrett-Koehler Publisher Inc.
- Wheatley, M. J. and Myron K.R. (1996). *A Simpler Way*. San Francisco: Berrett-Koehler Publisher Inc.
- William, K. F. (2004). *The Quantum World: Quantum Physic for Everyone*. United States : Harvard University Press.
- Yin R. (1994). *Case Study Research: Design and Methods*, 2<sup>nd</sup> edition. Newsbury Park, CA: SAGE Publication, Inc.
- Youndt M. A. (1998). *Human Resource Management System, Intellectual Capital and Organizational Performance*. Pennsylvania State University: PhD. Thesis.
- Zohar D. and Marshal I. (2001). *SQ: Connecting with Our Spiritual Intelligence*. New York: Bloomsbury Publishing.
- Zohar D. and Marshall I. (2004). *Spiritual Capital: Wealth We Can Live By*. Bloomsbury Publishing Plc.