

**THE INFLUENCE OF INTELLECTUAL CAPITAL AND TOTAL QUALITY
MANAGEMENT ON CORPORATE PERFORMANCE**

KHOR SAW CHIN

UNIVERSITI TEKNOLOGI MALAYSIA

THE INFLUENCE OF INTELLECTUAL CAPITAL AND TOTAL QUALITY
MANAGEMENT ON CORPORATE PERFORMANCE

KHOR SAW CHIN

A thesis submitted in fulfilment of the
requirement for the award of the degree of
Doctor of Philosophy (Management)

Faculty of Management
Universiti Teknologi Malaysia

JUNE 2016

This research is especially dedicated to my family and friends
for their kindness and support and everything they have done for me.

ACKNOWLEDGEMENT

First and foremost, I would like to express my sincere appreciation to my respected supervisor, Associate Professor Dr. Saudah Sofian, for her encouragement, guidance, support, patience, and assistance throughout my entire Ph.D program. She continually conveyed a spirit of adventure in regard to this study and my life. She is a great listener and always gave me courage to overcome the obstacles that I encountered and to continue on this journey in my life.

Apart from that, I would also like to take this opportunity to thank Dr. Ahmad Jusoh in supplying his comments, advice, and assistance with the statistical analyses. My sincere appreciation also extends to Dr. Maisarah in providing her helpful comments.

I would also like to dedicate my special thanks to all Malaysian public listed companies who were willing to participate in my study and kind to sacrifice their time in answering my questionnaires and being interviewed. They have been providing me very useful information and feedback for my study.

Moreover, special thanks are delivered to my friends and others who directly or indirectly provided assistance and support at various occasions. Finally, I would like to convey my deepest gratitude to all my family members for their encouragement, understanding, love, and concern.

ABSTRACT

Intellectual Capital (IC) is an intangible asset that leverages knowledge on each Total Quality Management (TQM) principle. TQM, a holistic approach, focuses on meeting customers' needs and expectation through the involvement of all individuals and organisational function for continuous improvement. Organisations cannot depend solely on either IC or TQM in today's highly competitive environment and context demands, as each complements the other. However, IC and TQM are often investigated separately and contemporary research remains scant on the integration of IC and TQM. Hence, this study examined the impact of integration between IC and TQM on corporate performance. A mixed method research approach, involving quantitative and qualitative methods was applied. Systematic sampling technique with sampling intervals of 2 was used to draw samples for quantitative data. On the other hand, purposive and self-selection sampling techniques were applied in the qualitative approach. Quantitative data collected via questionnaire were distributed to 260 human resource (HR) managers in Malaysian public listed companies and analysed using correlation, simple linear regression and hierarchical regression. Three companies were selected as case studies where semi-structured interviews were held with HR managers. Besides that, companies' written documents were used as secondary data. Findings revealed that IC and TQM influenced corporate performance individually. However, the results indicated that the integration of IC and TQM created a synergy in enhancing higher corporate performance. Additionally, a newly introduced IC component, that is spiritual capital, demonstrated a strong relationship with TQM practices in improving corporate performance. The major implication of the finding is that when IC values are integrated with TQM implementation, they enhance corporate performance.

ABSTRAK

Modal Intelek (IC) adalah aset tidak nyata yang memanfaatkan pengetahuan terhadap setiap prinsip Pengurusan Kualiti Menyeluruh (TQM). TQM, satu pendekatan holistik, memfokuskan kepada memenuhi keperluan dan jangkaan pelanggan melalui penglibatan semua individu dan fungsi organisasi untuk penambahbaikan yang berterusan. Organisasi tidak boleh bergantung semata-mata sama ada pada IC atau TQM dalam persekitaran persaingan dan konteks permintaan semasa yang tinggi kerana kedua-duanya melengkap antara satu sama lain. Walau bagaimanapun, IC dan TQM pada kebiasaannya dikaji secara berasingan dan penyelidikan kontemporari masih kurang dalam integrasi IC dan TQM. Oleh itu, kajian ini mengkaji kesan integrasi antara IC dan TQM terhadap prestasi korporat. Pendekatan penyelidikan kaedah campuran yang melibatkan kaedah kuantitatif dan kualitatif telah digunakan. Teknik persampelan sistematik dengan selang penyampelan 2 telah digunakan untuk memilih sampel bagi data kuantitatif. Di sebaliknya, teknik persampelan bertujuan dan pemilihan sendiri telah digunakan dalam pendekatan kualitatif. Data kuantitatif yang dikumpul melalui soal selidik telah diedarkan kepada 260 orang pengurus sumber manusia (HR) dalam syarikat tersenarai awam Malaysia dan dianalisis dengan menggunakan korelasi, regresi linear mudah dan regresi hierarki. Tiga syarikat telah dipilih sebagai kajian kes yang mana temubual separa berstruktur telah diadakan dengan pengurus HR. Selain itu, dokumen bertulis syarikat telah digunakan sebagai data sekunder. Dapatan kajian menunjukkan bahawa IC dan TQM mempengaruhi prestasi korporat secara individu. Walau bagaimanapun, keputusan menunjukkan bahawa integrasi antara IC dan TQM telah melahirkan sinergi dalam mempertingkatkan prestasi korporat ke tahap yang lebih tinggi. Tambahan pula, komponen IC baharu yang diperkenalkan, iaitu modal spiritual, menunjukkan hubungan yang kuat dengan amalan TQM bagi meningkatkan prestasi korporat. Implikasi utama kajian ini adalah apabila nilai IC diintegrasikan dengan pelaksanaan TQM, ia dapat meningkatkan prestasi korporat.

3.1	Theoretical Bases	85
3.1.1	Resource-based View (RBV) Theory	86
3.2	The Theoretical Framework	90
3.3	Research Hypotheses	91
3.3.1	Intellectual Capital (IC) and Corporate Performance	92
3.3.2	Total Quality Management (TQM) and Corporate Performance	93
3.3.3	Integration of Intellectual Capital and Total Quality management on Corporate Performance	95
3.4	Introduction to Research Methodology	97
3.4.1	Research Philosophy	98
3.5	Research Process	100
3.6	Research Methodology	102
3.6.1	Mixed Methods Designs	103
3.7	Data Collection	106
3.7.1	Questionnaire	106
3.7.1.1	Population and Sampling Frame	107
3.7.1.2	Sample Size	108
3.7.1.3	Sampling Method	109
3.7.1.4	Respondents and Unit of Analysis	110
3.7.1.5	Questionnaire Design	111
3.7.2	Interviews	119
3.7.2.1	Sampling	121
3.8	Measurement Error	122
3.9	Pilot Study	124
3.10	Reliability of Questionnaire	125
3.11	Validity	127
3.11.1	Content Validity	127
3.11.2	Construct Validity	128
3.11.3	Criterion Validity	129
3.12	Data Analysis	129

3.12.1	Descriptive Analysis	130
3.12.2	Correlation Analysis	130
3.12.3	Regression Analysis	131
3.12.4	Qualitative Analysis	133
3.12	Summary	134
4	QUANTITATIVE ANALYSIS	135
4.0	Introduction	135
4.1	Response Rate	135
4.1.1	Demographic Analysis Results	136
4.2	Factor Analysis Results	138
4.2.1	Factor Analysis Results on Intellectual Capital	140
4.2.2	Factor Analysis Results on Total Quality Management	142
4.2.3	Factor Analysis Results on Corporate Performance	144
4.3	Reliability Analysis Results	145
4.4	Descriptive Statistics Results	147
4.5	Assumptions of Multiple Regressions	151
4.5.1	Normality Test Results	151
4.5.2	Linearity Test Results	154
4.5.3	Multivariate Outliers Results	155
4.5.4	Homoscedasticity Test Results	156
4.5.5	Multicollinearity Test Results	158
4.6	Correlation Analysis Results	159
4.7	Simple Linear Regression Results	161
4.7.1	Simple Linear Regression Analysis Results of IC on Corporate Performance	162
4.7.2	Simple Linear Regression Analysis Results of TQM on Corporate Performance	164
4.8	Hierarchical Regressions Results	166
4.9	Summary	169

5	QUALITATIVE ANALYSIS	171
5.0	Introduction	171
5.1	Research Interview Analysis	171
5.1.1	Hotel	172
5.1.1.1	Human Capital	172
5.1.1.2	Structural Capital	173
5.1.1.3	Relational Capital	173
5.1.1.4	Spiritual Capital	174
5.1.1.5	Top Management Leadership	175
5.1.1.6	Human Resource Management	176
5.1.1.7	Customer Focus	177
5.1.1.8	Strategic Planning	177
5.1.1.9	Information and Process Management	178
5.1.1.10	Key Findinds from Company	179
5.1.2	Finance Company	180
5.1.2.1	Human Capital	180
5.1.2.2	Structural Capital	181
5.1.2.3	Relational Capital	181
5.1.2.4	Spiritual Capital	182
5.1.2.5	Top Management Leadership	183
5.1.2.6	Human Resource Management	183
5.1.2.7	Customer Focus	185
5.1.2.8	Strategic Planning	185
5.1.2.9	Information and Process Management	186
5.1.2.10	Key Findinds from Company	186
5.1.3	Trading and Service Company	187
5.1.3.1	Human Capital	187
5.1.3.2	Structural Capital	188
5.1.3.3	Relational Capital	189
5.1.3.4	Spiritual Capital	190
5.1.3.5	Top Management Leadership	191
5.1.3.6	Human Resource Management	192
5.1.3.7	Customer Focus	193

5.1.3.8	Strategic Planning	194
5.1.3.9	Information and Process Management	195
5.1.3.10	Key Findinds from Company	196
5.2	Compare the Intellectual Capital and Total Quality Management among Three Companies with Discussion	196
5.3	Summary	203
6	DISCUSSION AND CONCLUSION	205
6.0	Introduction	205
6.1	Discussion of Key Findings	205
6.1.1	The Impact of Intellectual Capital on Corporate Performance	206
6.1.2	The Impact of Total Quality Management on Corporate Performance	211
6.1.3	The Effect of Integration between Intellectual Capital and TQM on Corporate Performance	213
6.2	Contributions of the Study	216
6.3	Implications of Study	218
6.4	Limitations of Study	220
6.5	Recommendations for Future Research	221
6.6	Conclusion	223
	REFERENCES	225
	Appendices A- J	244-272

LIST OF TABLES

TABLE NO.	TITLE	PAGE
2.1	Definitions of Intellectual Capital	19
2.2	Classification of IC	21
2.3	Summary of Relationship between IC and Corporate Performance	39
2.4	Definition of Quality	44
2.5	Definition of Total Quality Management	45
2.6	TQM Practices Embedded in TQM Framework	47
2.7	Summary of Relationship between TQM and Corporate Performance	57
3.1	A Summary of Features of Positivism	99
3.2	Comparison of Qualitative and Quantitative Approaches	102
3.3	List of Companies in each Sector of Population	108
3.4	Guidelines for Determining Sample Size	109
3.5	Different Section of Questionnaire	111
3.6	Questionnaire Design	112
3.7	An Integrated Approach to Measurement Validation	123
3.8	Comments and Revisions from Pilot Study	125
3.9	Rules of Thumb about Cronbach's Alpha Coefficient	126
3.10	Reliability Analysis of Pilot Data	126
3.11	Rules of Thumb on Correlation Coefficient Size	130
4.1	Demographic Data of Respondents	136
4.2	Significant Factor Loading based on Sample Size	140
4.3	Factor Analysis Results on Intellectual Capital	141
4.4	Factor Analysis Results on Total Quality Management	143
4.5	Factor Analysis Results on Corporate Performance	145

4.6	Reliability Analysis Results for Variable Measured	146
4.7	Mean of Respondents on Questionnaire Items	147
4.8	Normality Test for Measured Variables	152
4.9	Multivariate Outliers Result 1	155
4.10	Multivariate Outliers Result 2	156
4.11	Multicollinearity Analysis Results	159
4.12	Correlation Analysis Results	160
4.13	Simple Linear Regression Analysis Results of IC to Financial Performance	162
4.14	Simple Linear Regression Analysis Results of IC to Non-Financial Performance	163
4.15	Simple Linear Regression Analysis Results of IC to Corporate Performance	163
4.16	Simple Linear Regression Analysis Results of TQM to Financial Performance	164
4.17	Simple Linear Regression Analysis Results of TQM to Non-Financial Performance	165
4.18	Simple Linear Regression Analysis Results of TQM to Corporate Performance	166
4.19	Hierarchical Regression Analysis Results of IC and TQM to Financial Performance	167
4.20	Hierarchical Regression Analysis Results of IC and TQM to Non-financial Performance	168
4.21	Hierarchical Regression Analysis Results of IC and TQM to Corporate Performance	169
5.1	Summary of Intellectual Capital and Total Quality Management Practices from the Three Companies	197

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
2.1	The “Intellectual Capital Central-Triangle” Model	27
2.2	The Generic Initial of a Resource Distinction Tree	32
2.3	Linkage Model between IC Management Model and EFQM Model	82
3.1	Resource-based Model	87
3.2	Research Framework	91
3.3	Research Flow Chart	101
3.4	Convergent Design	105
3.5	Formula of Sampling Interval	110
3.6	Qualitative Data Analysis	133
4.1	Linearity Test - Scatterplot Matrix	154
4.2	Analysis of Standardized Residuals	157

LIST OF ABBREVIATIONS

CF	-	Customer Focus
FP	-	Financial Performance
HC	-	Human Capital
HR	-	Human Resource
HRM	-	Human Resource Management
IA	-	Information and Analysis
IC	-	Intellectual Capital
ICM	-	Intellectual Capital Management
IT	-	Information Technology
KPI	-	Key Performance Indicator
L	-	Top Management Leadership
NF	-	Non-financial Performance
PM	-	Process Management
RBV	-	Resource-based View
RC	-	Relational Capital
SC	-	Structural Capital
SP	-	Strategic Planning
SpC	-	Spiritual Capital
TQM	-	Total Quality Management

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	Sample Size from a given Population	244
B	UTM Cover Letter	245
C	Questionnaire	246
D	Interview Questions	256
E	Analysis Factor for Intellectual Capital	259
F	Analysis Factor for Total Quality Management	263
G	Analysis Factor for Corporate Performance	267
H	Hierarchical Regression Analysis Results of IC and TQM to Financial Performance	270
I	Hierarchical Regression Analysis Results of IC and TQM to Non-financial Performance	271
J	Hierarchical Regression Analysis Results of IC and TQM to Corporate Performance	272

CHAPTER 1

INTRODUCTION

1.0 Overview of Study

Quality has become a minimum entry standard to compete in the global market. It is necessity to the survival of an organisation but it may not be a source of competitive advantage (Fazli *et al.*, 2003 and 2004). The basis for competition has moved towards how well intellectual assets are focused on quality performance which includes reducing costs, increasing operational speed, and meeting customer needs (O'Dell *et al.*, 1999). Mohd Najib (2010a) stated that investment in new technology, multi skills, innovation and creativity, and increased competency are the drivers of public and private sector performance. Companies competing in the global market must produce greater productivity through the use of skills and innovation, improved coordination, stronger branding, and compliance with international standards and intellectual property rights to achieve competitive advantage.

Both tangible and intangible resources are prime resources of an organisation. Today's service and knowledge-economy, intangible resources are more powerful than tangible resources. It does not mean that tangible assets are not important, however, sustained competitive edge grows out of utilisation of the intangible resources that are valuable, rare, and difficult to imitate. For example, brand names, in-house knowledge of technology, skilled and competent people, intellectual property, and many other intangible assets that cannot easily be imitated, acquired, and substituted by the competitors allows firms to have long-term profitability and obtain competitive advantage (Roos *et al.*, 2005; Wernerfelt, 1984). Thus, many

companies and researchers currently frequently rank intangible assets higher than physical assets in producing competitive advantage.

As a result of such convictions, organisations need a quality management approach that views knowledge as a potential source of competitive advantage (Zhao and Bryar, 2001). Intellectual Capital (IC) are intangible assets that basically constitute knowledge and ideas (Sullivan Jr and Sullivan Sr, 2000), thereby, organisations must possess high level of IC to deploy knowledge intensively and continually generate new innovations. It is extremely important to appreciate and appropriately manage IC particularly to upbeat positive corporate performance (Bontis *et al.*, 2000; Usoff *et al.*, 2002). It can contribute to both knowledge generations and value-added services respectively (Bontis *et al.*, 2000).

In Malaysia, IC has been emphasised on New Economic Model (NEM) to drive the economy of the country. Development of human capital in terms of intellect, skills, and noble values, including work ethics would be one of the central strategies in the formulation of the new economic model to ensure knowledge, innovation-rich and cost-effective manpower and it is the government's effort to bring about a huge transformation to the country (New Economic Model Timely, 2010). Human capital is also stressed and highlighted in Malaysia's national plans. It is stated in the 10th Malaysia Plan (10MP) tabled by the Prime Minister, Datuk Seri Najib Tun Razak:

The Government will focus on efforts to develop non-physical infrastructure including human capital development such as skills development and strong innovation capabilities. The 10MP allocation for non-physical infrastructure will be increased to 40%, compared with 21.8% in the 9MP. Focus will be given to skills development programmes, R&D activities, and venture capital funding geared towards promoting a higher level of innovation in the country.

(The Star, 10 June 2010)

Efforts to develop the human capital have been implemented by all of Malaysia's Prime Ministers. 1Malaysia concept, 'People First, Performance Now' has been an ongoing effort of human capital development, a continuation of previous policies by past leaders. The current Prime Minister through 1Malaysia concept has emphasised performance and human development (Mohd Najib, 2010b).

The fundamental reliance of a company to succeed is in its people. The creativity of employees is the only source of long-term success and competitiveness for a company (Zivojinovic and Stanimirovic, 2009). Both IC and total quality management (TQM) which primarily focus on human have attracted the attentions of many researchers of respective fields. TQM has been accepted widely as a mean of improving performance and sustaining competitive edge in the global market evidenced by emergence of many high profile awards in different countries (Brah *et al.*, 2002).

In Malaysia, TQM has been widely implemented, evidenced by yearly prestigious awards given to firms like Quality Management Excellent Award (QMEA) and the Malaysian Prime Minister Quality Award (PMQA) (Zakuan *et al.*, 2009). Along with the development of globalisation and e-business, customers have more choices and increasing demand for better quality. They do require high quality products and services without concomitant increases in price (Chenhall, 1997). In order to meet this challenge and to succeed in global competition, companies have to invest in intangibles assets and implement TQM. TQM is a holistic approach that focuses on meeting and exceeding customers' needs and expectation through the integration of all organisational function and involvement of all individuals to improve continuously. It has been accepted as embodying a set of principles and widely disseminated in the form of practices, tools, techniques, and systems. Since 1990s, the priority of TQM has shifted to services rather than manufacturing. An organisation cannot do without managing intangible resources such as knowledge and spirituality. IC is defined as non-monetary asset without physical existence but it possesses value and can generate future benefits and competitive advantage for a firm when it is effectively managed. Studies on intellectual capital have been carried out across fields. However, in quality management context, the study on the effects

pertaining to IC is relatively fewer than in other fields such as accounting and finance.

1.1 Problem Statement

The research began with an interest in both IC and TQM. The study of the literature was a challenging task, as these two areas are often addressed in a separate fashion. The existing Malaysian IC literature mostly linked with and covered the aspects of accounting and financial reporting to address IC disclosures. IC research from the accounting perspective, which focuses on measuring and reporting rather than managing IC can be detrimental because it reduces the potential of an organisation to change to new management actions. Conversely, the use of IC as a strategic managerial approach enables the company to create value from IC, apply IC to the problems, and achieve the goals. Managers can apply IC in specific contexts and in day-to-day management activities (Chiucchi and Dumay, 2015).

To the knowledge of the researcher, this is the first study that endeavours to integrate IC and TQM. The rise of global competition has emphasised the ability of a company to integrate both IC and TQM to drive its competitiveness and sustainability of its performance over time. In order to improve the understanding of the integration of IC and TQM on corporate performance, there were several interesting issues which deserved investigation as discussed in the following sub-sections.

1.1.1 Issue 1: Intellectual Capital and Corporate Performance

Marr *et al.* (2004a) and Mayo (2000) acknowledged IC as a driver and key resource underpinning organisational performance and value creation. Steward (1998) stated that it is essential for firms to understand the importance of growing and managing IC which is recognized as preeminent economic resources. Adamson

(2005) urged organisations to shift their priorities from physical resources to intellectual assets in order to achieve and retain competitive advantage in today's fast moving globally competitive marketplace. Undoubtedly, there is a general agreement that IC is intangible, invisible and knowledge-based assets that would create value and competitive advantage to a firm.

Wang and Chang (2005) pointed out that there is far from enough empirical research examining the impact of IC on firm performance. The contemporary studies has focused mainly on three components of IC which are human capital, structural capital and relational capital (Isaac, Herremans, and Kline, 2009; Liu, 2009; Cohen and Kaimenakis, 2007; Roos, 2005; Meritum, 2002; Bontis *et al.*, 2000; Brooking, 1999). However, little evidence was found to include spiritual capital in the relationship between IC and corporate performance. There is a high risk that everybody's potential intellectual competencies will not be used efficiently or effectively without focusing on spiritual capital (Dahlgaard, and Dahlgaard-Park, 2006). It is supported by Gillett (2008) who noted that spiritual capital fuels corporate success through managing the flow of human energy and spirit to increase employees' motivation, satisfy customer and to take prudent risks. Without the energy of human spirit as the fuel, the outer action often falls even when the best practices are implemented.

The inclusion of spiritual capital in IC concept was suggested by Mazlan (2005) who conducted a case study in a telecommunication company in Malaysia, Telekom Malaysia (TM). The author proposed an extended model of IC, which explicates spiritual capital as another component of IC to bring profitability. The author explained that spiritual capital is not barely an addition to IC. The relationship between spiritual capital and other three components of IC is critical. Unfortunately, this case-based research lacked statistical and methodological rigour for generalisation.

Since the inclusion of spiritual capital in IC concept is not widely accepted and empirically tested by IC scholars, this study is motivated to investigate if IC, which comprises human capital, structural capital, relational capital and spiritual

capital, has a positive influence on corporate performance. Among all four IC components, human capital is the main building blocks or the most influential component of IC due to its synergy effects on structural capital and relational capital (Liu, 2009; De Castro and Sáez, 2008; Wang and Chang, 2005). Structural capital is essential to support employee activities and the overall IC will not achieve fullest potential without structural capital (Liu, 2009; Edvinsson and Sullivan, 1996). Besides that, relational capital provides external knowledge to motivate and assists employees in developing their own skills and create efficient organisational routines (Liu, 2009; Cohen and Kaimenakis, 2007; Bontis *et al.*, 2000). In addition, spiritual capital acts as a component to govern the accomplishment and the establishment of interrelationships among the components of IC and results in sustainable development (Mazlan, 2005).

Obviously, a company performance cannot rely solely on any single element of IC, as improvement of certain element may positively affect other elements and thus improve performance (Wang and Chang, 2005). Nevertheless, the existing empirical researchers has attempted to operationalise components of IC individually. The relationship between IC and corporate performance is not so clear if human capital, structural capital, relational capital and spiritual capital are separated and their effects are evaluated separately or individually. In the light of the above discussion, all four components of IC are aggregated in this study to investigate its impact on corporate performance.

1.1.2 Issue 2: Total Quality Management and Corporate Performance

TQM has been accepted widely as a mean of improving performance and sustaining competitive edge in the global market (Brah *et al.*, 2002). Top management leadership, human resource management, customer focus, strategic planning, information and analysis, and process management are receiving the highest coverage in the articles surveyed and used to study the effect of TQM on the corporate performance (Sila, 2007; Demirbag *et al.*, 2006b; Brah *et al.*, 2002; Douglas and Judge, 2001; Samson and Terziovski, 1999; Winn and Cameron, 1998;

Saraph *et al.*, 1989). The findings of the reviewed studies indicated that these components are interrelated. They rely on each other to affect corporate performance. However, there are few studies to justify combining these TQM components as a single construct to analyse the relationship between TQM and performance (Jiménez-Jiménez and Martínez-Costa, 2009; Sila and Ebrahimpour, 2005). Furthermore, the relationship between TQM and corporate performance is not very clear if the TQM components are separated into different dimension and their effects are evaluated separately. Hence, the TQM components are aggregated as a whole concept in this study to create the synergies among them rather than as separated parts to achieve desired performance.

Moreover, previous studies imply that researchers have different approaches in conceptualization of corporate performance measures. Previous studies found that firms that implemented TQM performed financially better than average (Kumar *et al.*, 2009; Escrig-Tena, 2004; York and Miree, 2004; Douglas and Judge, 2001; Brah *et al.*, 2000; Easton and Jarrell, 1998). In opposition to this finding, Sila (2007) and Demirbag *et al.* (2006b) found weak or indirect relationship between TQM and financial performance. Whilst, study of Kumar *et al.* (2009), Zakuan *et al.* (2009), Sila (2007), Demirbag *et al.* (2006a), Demirbag *et al.* (2006b), Brah *et al.* (2002), Samson and Terziovski (1999), Winn and Cameron (1998), Powell (1995) found support for the relationship between implementations of TQM practices and some non-financial performance. Since the results of the mentioned studies are inconsistent with one another, it is hard the researcher to compare amongst the contemporary studies and to conclude the relationship between TQM and corporate performance, both in financial and non-financial perspective.

Additionally, inappropriate performance measurement can actually block the attempts to implement TQM (Sinclair and Zairi, 1995). The limited recording and capturing the contribution of TQM in financial performance prevents most companies from knowing their true performance drivers. Financial and non-financial performance measures are complementing and supplementing each other. Performance measurements that incorporate financial and nonfinancial performance measures can properly align the efforts of an organisation with its strategic objective

(Kaplan and Norton, 1996). Thus, the integration of financial and non-financial performance measures is necessary to enable the company gain knowledge and insights into the contribution of TQM as well as understand how to practice it.

1.1.3 Issue 3: Impact of the Integration between Intellectual Capital and Total Quality Management on Corporate Performance

Quality management is not a new issue in both practitioner and academic literature, yet, there is still a need for empirical studies on TQM as many researchers and organisations are still interested in it and many firms still adopt and implement TQM. It is noted that the diffusion of TQM is increasing globally (Scarbrough, Robertson, and Swan, 2015; Kennedy and Fiss, 2009; Ehigie and McAndrew, 2005; Sebastianelli and Tamimi, 2003). Quality has become a minimum entry standard to compete in the global market and it is a necessity to the survival of an organisation, however, it may not be a source of competitive advantage (Fazli *et al.*, 2003 and 2004).

Along the rise of knowledge-based economy, efforts to manage knowledge in organisation are vital as they are necessary in gaining a sustained competitive advantage (Zhao and Bryar, 2001). An organisation should not effectively manage quality only, but they must also apply and manage both quality as well as new knowledge. As stated by Douglas and Judge (2001), an organisation that adopts TQM needs to develop and integrate new knowledge and ways to create customer value, lest, TQM does not add any values.

Recently, several researchers have started to understand the need to integrate knowledge and quality management and thus, they are now developing effective methodologies or frameworks that treat new knowledge as a complement to quality management philosophy such as TQM. The compatibility of TQM with other management practices such as R&D (Prajogo and Sohal, 2006), innovation (Abrunhosa and Moura E Sá 2008; Prajogo and Sohal, 2001), human resource management (Jiménez-Jiménez and Martínez-Costa, 2009; Ooi *et al.*, 2009), ISO

(Mart ínez-Costa *et al.*, 2009), and knowledge management (Colurcio, 2009; Ooi *et al.*, 2009; Ruževičius, 2006; Adamson, 2005; Zhao and Bryar, 2001) have been examined in determining firm performance. In fact, knowledge management (KM) is part of IC. KM is a process while IC is an entity and an asset (Brooking, 1999). IC consists of value-added dimension which knowledge management does not and it stimulates firms to treat knowledge as the basic capability (Chaminade and Johanson, 2003). IC has been interpreted by knowledge management practitioners as a portfolio of organised knowledge, which can be converted into wealth-creating processes and activities (Chase, 1997). In relation to the argument, it is pointed out that firm may have to complement TQM with new knowledge or other resources, the question here is if IC can be integrated with TQM to achieve higher performance. Yet, there is a lack of previous research that directly linked TQM and IC.

The basis for competition has moved towards how well intellectual assets are focused on quality performance including reducing costs, increasing speed, and meeting customer needs (O'Dell *et al.*, 1999). Lim *et al.* (1999) as cited by Mart ínez-Castilla and Rodríguez-Ruiz (2008), noted that quality management relies on IC of the organisation to maintain its products and services competitiveness and quality strategy success. IC is intangible asset that leverages knowledge to each of TQM principle. To be highly competitive and successful, a company is urged to create and sustain a balanced intellectual capital and quality portfolio. They need to understand how to set broad priorities and integrate the goals of managing IC with the goal of excellent quality. This requires the integration of IC and TQM. The combined system is a dynamic process to motivate employees at all levels to implement and use the new capability in their daily work and eventually achieve the desired corporate performance.

In addition to the above, both IC and TQM have emphasised the common themes and continuous improvement (Kim *et al.*, 2009). In the light of the discussion in literature, both IC and TQM have been proposed theoretically and empirically to improve corporate performance. However, existing studies do not clearly show and provide much evidence on how exactly TQM affects corporate performance (Kumar *et al.*, 2009).

Furthermore, the resource-based view theory does support the integration of IC and TQM. TQM implementation would not be successful without the complement of IC which is rare, valuable, imperfectly imitable, and non-substitutable. IC is idiosyncratic and unique. It includes brand names, in-house knowledge of technology, capital, skilled and competent people, intellectual property, and the like (Wernerfelt, 1984). This view is supported by Powell (1995) who highlighted the difficulties raised by both causal ambiguity and complementary resource that are faced by TQM adopters. This view is in line with Escrig-Tena (2004) who attempted to relate TQM and the resource-based view of the firm in a study that has taken IC (resources) into account. Nevertheless, IC alone has no value and its value is derived from its ability to assist organisations implement their strategies (Kaplan and Norton, 2004). This is consistent with the view of Brown *et al.* (2005) who declared that the value of IC relies on implementing and executing an integrated business strategy. In summary, organisations cannot depend solely on either intangible resources or strategy, as they by themselves do not sustain global competitive advantage; they are complementing each other.

In order to support the theory of this study and the need of the existence of this study, Mart ín-Castilla and Rodríguez-Ruiz (2008) pointed out the theoretically existence of a relationship between elements of IC and elements of European Foundation for Quality Management (EFQM) and concluded that EFQM is an approach as a methodology of IC reporting and it is a tool for knowledge governance. Another study conducted by Kim *et al.* (2009) in a R&D organisation in Korea named ETRI (Electronics and Telecommunications Research Institute) has also compared the criteria of EFQM and IC management components and proposed a linkage model between IC management and EFQM model. However, this study lacked statistical and methodological rigour. This case-based research was restricted to only a single organisation and a single region and it may make the results less generalisable.

This means that TQM has been considered in IC research but the coverage is not distinct. These authors have not included the spiritual capital. As stated by Gillett (2008) and Mazlan (2005), a comprehensive study in IC should take spiritual

capital into account. The organisational potential intellectual competencies will be utilised neither efficiently nor effectively without focusing on spiritual capital (Dahlgaard, and Dahlgaard-Park, 2006). Furthermore, since the employees are recognised as valuable assets in a total quality setting, their motivation, satisfaction, pride-of-work, and turnover are essential for successful TQM implementation and firm performance (Sadikoglu and Zehir, 2010). It is supported by Connor (1997) who noted that the barriers to TQM implementation were mainly due to failure to incorporate the needs of employees in the implementation. In consistent with the above, Fei and Rainey (2003) highlighted the role of organisation in harnessing employees' commitment to TQM through fostering trust, respect, involvement, inspiration, and motivation, effective communication and address the needs for personal development. With spiritual capital, organisations can succeed through managing the flow of human energy and spirit to increase employees' motivation, satisfy customers, and to take prudent risks. Without the energy of human spirit as the fuel, the organisation will not success even when the best practices are implemented (Gillett, 2008).

In the relation to the above argument, a firm may have to complement IC and TQM in order to achieve higher performance and competitive advantage. If TQM is ignored, knowledge and intangible assets that individuals and organisations own can become wasted. On the other hand, TQM needs the knowledge and intangible assets to respond to economic and market change in relation to today's highly competitive environment and contextual demands. With the integration of IC and TQM, a company's ability to respond to market change and sustain a competitive advantage will be higher. However, there is extremely little literature or evidence linking IC and TQM. Hence, this study is strongly important in filling these absences by determining the impact of the integration between IC and TQM on corporate performance. With an aim to extend the understanding on this relationship, this study has also resolved the issue pertaining to performance measures.

1.2 Purpose of the Study

The main purpose of this research was to explore whether the integration of intellectual capital and total quality management affects corporate performance. With an aim to extend the understanding on this relationship, this study has also identified whether IC brings positive synergy to improve corporate performance and if TQM implementation affects corporate performance respectively.

1.3 Research Questions

In relation to the concerns that have been raised in the problem statement, this study attempts to answer the following questions:

1. Does IC (HC, SC, RC, and SpC) influence corporate performance?
2. Does TQM influence corporate performance?
3. Does the integration between IC (human capital, structural capital, relational capital and spiritual capital) and TQM affects corporate performance?

1.4 Objectives of the Study

To achieve the above purpose of the study, the following objectives are outlined:

1. To examine the impact of IC (HC, SC, RC, and SpC) on corporate performance.
2. To examine the impact of TQM on corporate performance.
3. To determine the impact of the integration between IC (human capital, structural capital, relational capital and spiritual capital) and TQM on corporate performance.

1.5 Scope of the Study

This study encompasses IC, TQM and corporate performance. It identifies the effect of IC, effect of TQM, and integration effect of IC and TQM on corporate performance. This research has focused on Malaysian public listed companies by using quantitative and qualitative approaches. The respondents of the study were the human resource managers of the companies. They were chosen as respondents because they are directly involved in the organisational process and management and have first-hand knowledge of organisational performance improvement implementation activities. Since TQM is involving all employees and departments, the senior managers or heads of human resource department are adequate as they have knowledge of past and present organisational practices pertaining to quality management. In addition, examining of secondary data such as annual reports could also check the information given by the interviewees.

1.6 Significance of the Study

The available IC studies are frequently addressed in literature such as raising awareness of IC, defining concept, managing and measuring IC, and modelling (Seleim *et al.*, 2007), however there is little evidence found with relation to IC and quality management, particularly within Malaysian context. The value of IC is derived from its ability to assist organisations implementing and executing their strategy (Brown *et al.*, 2005; Kaplan and Norton, 2004). Likewise, that quality management relies on IC of the organisation such as use of skills and innovation, improved coordination, stronger branding, and compliance with international standards and intellectual property rights to achieve competitive advantage to maintain its products and services competitiveness and quality strategy success (Lim *et al.*, 1999; O'Dell *et al.*, 1999). In brief, organisations cannot depend merely on either intangible resources or strategy, as they by themselves do not sustain global competitive advantage; they are complementing each other. Since there is extremely little literature or evidence linking IC and TQM, this study contributes to the new

knowledge by overcoming this gap through being among the early studies of related IC and TQM in Malaysia.

In addition to that, this study sought to extend the existing literature of IC and TQM. The existing empirical researches do not include spiritual capital in the relationship between IC and firm performance until Mazlan (2005) proposed an extended model of IC, which explicates spiritual capital as component of IC. Human's potential intellectual competencies will be used neither efficiently nor effectively without focusing on spiritual capital (Dahlgaard and Dahlgaard-Park, 2006). Additionally, the barriers to TQM implementation were mainly due to failure to incorporate the values of spiritual capital in the implementation (Fei and Rainey, 2003; Connor, 1997). Due to the absence of empirical evidence pertaining to comprehensive IC (HC, SC, RC, and SpC) and TQM, this study is imperative in filling these absences.

Additionally, different from the previous studies that used to operationalise components of IC individually, all four components of IC are aggregated as a whole concept in this study to investigate its impacts on corporate performance. The relationship between IC and corporate performance is not so clear if human capital, structural capital, relational capital and spiritual capital are separated and their effects are evaluated separately or individually. Likewise, the TQM components are aggregated as a whole concept in this study to create the synergies among them rather than as separated parts to achieve desired performance.

Moreover, both IC (Chen *et al.*, 2004) and TQM (Sila, 2007) have seen performance measurement as a crucial element. Performance measurement that incorporate financial and nonfinancial performance measures are complimented and supported each other. They can properly align the efforts of an organisation with its strategic objective (Kaplan and Norton, 1996). Inappropriate performance measurement can actually block attempts to implement TQM (Sinclair and Zairi, 1995) and manage IC (Zigan and Zeglat, 2010). The limited recording and capturing the contribution of TQM and IC in financial performance prevents most companies from knowing their true performance drivers. Through the integration of financial

and non-financial performance measures, companies gain knowledge and insights into the contribution of TQM and IC as well as understand how to manage them. Therefore, this study measured corporate performance by incorporating financial and non-financial performance measures.

This study has also provided fruitful contributions to academicians and practitioners. It has provided guidelines and a ground for academics to further enhance extensive knowledge on the issues relating to IC, TQM and their integration in the future. The results of this study provide a significant contribution to knowledge by developing an integrated IC and TQM model as a methodological example which can be useful for tracking the degree of IC and TQM effects on corporate performance. From the business perspective, this study provides practical solutions to practitioners in improving corporate performance. It provides insights on the essential of integration of IC and TQM in relation to the argument pointed out that organisation have to complement IC and TQM, lest, the company may not get the most out of the benefit and utilisation of IC and TQM. This study can become an eye opener for the Malaysian public listed companies where they should start seriously consider adopting a method to identify, manage, and utilising IC while practicing TQM across the whole organisation as imperative agenda for the company. This study presents thorough understanding on the scenario of IC and TQM in Malaysia. On that basis, the framework suggested in this study serves as a foundation to assist organisations to acknowledge and manage their intangible assets and implement TQM practices better, resulting in higher performance and favourable profits.

1.7 Definition of Key Terms

The definition of key terms in this study are as follows:

Intellectual Capital is defined as non-monetary asset without physical existence but it possesses value and can generate future benefits and competitive advantage for a firm when it is effectively managed.

Human Capital is individual knowledge stock of the employees of an organisation includes a collective capabilities, experience, skills, leadership, intelligence, commitment, and general know-how of individual employees to solve customer problems.

Structural Capital is the organisational competencies include organisational routines, procedures, processes, systems, cultures, databases, structures, and intellectual property that owned by firm and assist employees in performing business.

Relational Capital is the stocks of relationship which embrace all kinds of external relationships of the organisation includes good relationships with customers, suppliers, alliance partners, community members, competitors, and other relevant stakeholders as well as the perceptions of outsiders on the firm itself such as brand, reputation, and image.

Spiritual Capital is spiritual expertise and knowledge relating to values, meaning, and purpose available to an individual and highest motivation in works and lives. When it is fully expressed in service and production would drive corporate success in its broadest sense and respect for the community at large.

Total Quality Management is a holistic approach that focuses on meeting and exceeding customers' needs and expectation through the integration of all organisational function and involvement of all individuals to improve continuously. It has been accepted as embodying a set of principles and widely disseminated in the form of practices, tools, techniques, and systems.

Corporate Performance refers to both financial and non-financial performance.

1.8 Organisation of Thesis

Chapter 1 of this study introduces the overview of study, problem statement, and objectives of the study. Chapter 2 presents the related literature in the area of intellectual capital(IC). It reviews the meaning of IC in the form of human capital (HC), structural capital (SC), relational capital (RC) and spiritual capital (SpC), its management and its relationship with corporate performance. This chapter also reviews the definition of quality and total quality management (TQM), its constructs and its relationships with corporate performance, both financial and non-financial. Chapter 3 presents the research theoretical based, research framework, research variables, and hypothesis. This chapter also lays out the methodology that was used in this study. It consists of research process, research design, data collection, and data analysis methods were used to conduct this study. Chapter 4 discusses the data analyses and findings from the quantitative data collected from the survey conducted. It also presents the relationship amongst the variables of the research framework. Chapter 5 presents the findings from the multiple case studies. The secondary data including company annual report, official websites, and company magazines is also used. Lastly, chapter 6 is concluded by discussing the findings of questionnaire survey and the case studies, contribution, and implications of the study, its limitations and puts forward recommendations for future study.

REFERENCES

- Abdullah, D. F., Sofian, S. and Bajuri, N. H. (2015). Intellectual Capital as the Essence of Sustainable Corporate Performance. *Pertanika Journal of Social Sciences & Humanities*. 23(S), 131-144.
- Abdullah Kaid Al-Swidi and Rosli Mahmud. (2011). Fostering the Performance of Banks Through Total Quality Management (TQM) Practices: A Bank Branches Perspective. *European Journal of Social Sciences*. 19(2), 268-285.
- Abrunhosa, A. and Moura E S á P. (2008). Are TQM Principles Supporting Innovation in the Portuguese Footwear Industry? *Technovation*. 28(4), 208-221.
- Adamson, I. (2005). Knowledge Management - The Next Generation of TQM? *Total Quality Management and Business Excellence*. 16(8-9), 987-1000.
- Amabile, T. M. (1993). Motivational Synergy: Toward New Conceptualizations of Intrinsic and Extrinsic Motivation in the Workplace. In Liu, C. (2009). Study on the Effect of Intellectual Capital on Firm Performance. *Proceedings of the 2009 International Conference on Management of e-Commerce and e-Government, ICMecG 2009*. 16-19 September. Nanchang, 228-231.
- Arrindell, W. A. and van der Ende, J. (1985). An Empirical Test of the Utility of the Observations-To-Variables Ratio in Factor and Components Analysis. *Applied Psychological Measurement*. 9(2), 165-178.
- Ashmos, D. P. and Duchon, D. (2000). Spirituality at Work: A Conceptualization and Measure. *Journal of Management Inquiry*. 9(2), 134-145.
- Auditor General of Alberta (2002). Best Practices in Preparing an Integrated Results Analysis: Guidelines for Government Organizations. Retrieved on September 27, 2010, from http://www.oag.ab.ca/files/oag/IRA_Best_Prac.pdf
- Babbie, E. R. (2007). *The Practice of Social Research*. (11th ed.) Belmont, CA: Thomson/Wadsworth.
- Babbie, E. R. (2010). *The Practice of Social Research*. (12th ed.) Belmont, CA: Wadsworth Publishing.

- Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*. 17(1), 99-120.
- Bennet, A. and Bennet, D. (2007). The Knowledge and Knowing of Spiritual Learning. *The Journal of Information and Knowledge Management Systems*. 37(2), 150-168.
- Berry, G. (1997). Leadership and the Development of Quality Culture in Schools. *International Journal of Educational Management*. 11(2), 52-64.
- Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*. (2nd ed.) University of South Florida. Retrieved December 21, 2015, from http://scholarcommons.usf.edu/oa_textbooks/3
- Birasnav, M. and Rangnekar, S. (2009). Structure of Human Capital Enhancing Human Resource Management Practices in India. *International Journal of Business and Management*. 4(5), 226-234.
- Blumberg, B., Cooper, D. R. and Schindler, P. S. (2008). *Business Research Methods*. (2nd ed.). New York, NY: McGraw Hill.
- Bontis, N. (1998). Intellectual Capital: An Exploratory Study that Develops Measures and Models. *Management Decision*. 36(2), 63-76.
- Bontis, N. (1999). Managing Organisational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field. *International Journal of Technology Management*. 18(5/6/78), 433-462.
- Bontis, N., William Chua, C. K. and Richardson, S. (2000). Intellectual Capital and Business Performance in Malaysian Industries. *Journal of Intellectual Capital*. 1(1), 85-100.
- Bontis, N., Crossan, M. M. and Hulland, J. (2002). Managing An Organizational Learning System by Aligning Stocks and Flows. *Journal of Management Studies*. 39(4), 437-469.
- Brah, S. A., Tee, S. S. L. and Rao, B. M. (2002). Relationship between TQM and Performance of Singapore Companies. *International Journal of Quality & Reliability Management*. 19(4), 356 - 379.
- Brah, S. A., Wong, J. L. and Rao, B. M. (2000). TQM and Business Performance in the Service Sector: A Singapore Study. *International Journal of Operations & Production Management*. 20(11), 1293 - 1312.
- Bratianu, C. and Orzea, I. (2013). The Entropic Intellectual Capital Model. *Knowledge Management Research & Practice*. 11(2), 133-141.

- Brown, A. Jr., Osborn, T., Chan, J. M., and Jaganathan, V. (2005). Managing Intellectual Capital. *Research Technology Management*. 48(6), 34-41.
- Brooking, A. (1999). *Corporate Memory: Strategies for Knowledge Management*. London: International Thomson Business Press.
- Bryman, A. (2006). Integrating Quantitative and Qualitative Research: How is It Done? *Qualitative Research*. 6(1), 97-113.
- Bryman, A. and Bell, E. (2007). *Business Research Methods*. New York: Oxford University Press Inc.
- Burack, E. H. (1999). Spirituality in the Workplace. *Journal of Organizational Change Management*. 12(4), 280-292.
- Carroll, R. F. and Tansey, R. R. (2000). Intellectual Capital in the New Internet Economy: Its Meaning, Measurement and Management for Enhancing Quality. *Journal of Intellectual Capital*. 1(4), 296 - 312.
- Carson, E., Ranzijn, R., Winefield, A. and Marsden, H. (2004). Intellectual Capital: Mapping Employee and Work Group Attributes. *Journal of Intellectual Capital*. 5(3), 443-463.
- Carver, R. H. and Nash, J. G. (2012). *Doing Data Analysis with SPSS Version 18*. Australia, AT., Belmont, CA : Brooks/Cole Cengage Learning.
- Čater, T. and Čater, B. (2009). (In)angible Resources as Antecedents of a Company's Competitive Advantage and Performance. *Journal for East European Management Studies*. 14(2), 186-209.
- Chaminade, C. and Johanson, U. (2003). Can Guidelines for Intellectual Capital Management and Reporting be Considered without Addressing Cultural Differences? *Journal of Intellectual Capital*. 4(4), 528-542.
- Chase, R. B., Jacobs, F. R. and Aquilano, N. J. (2006). *Operations Management for Competitive Advantage*. (11th ed.) New York: McGraw-Hill.
- Chase, R. L. (Ed.) (1997). Knowledge Management Benchmarks. *Journal of Knowledge Management*. 1(1), 83-92.
- Chen, J., Zhu, Z. and Xie, H. Y. (2004). Measuring Intellectual Capital: A New Model and Empirical Study. *Journal of Intellectual Capital*. 5(1), 195 - 212.
- Cheng, M. Y., Lin, J. Y., Hsiao, T. Y. and Lin, T. W. (2010). Invested Resource, Competitive Intellectual Capital, and Corporate Performance. *Journal of Intellectual Capital*. 11(4), 433-450.

- Chenhall, R. and Langfield-Smith, K. (2007). Multiple Perspectives of Performance Measures. *European Management Journal*. 25(4), 266-282.
- Chenhall, R. H. (1997). Reliance on Manufacturing Performance Measures, Total Quality Management and Organizational Performance. *Management Accounting Research*. 8(2), 187-206.
- Chiucchi, M. S. and Dumay, J. (2015). Unlocking Intellectual Capital. *Journal of Intellectual Capital*. 16(2), 305-330.
- Cohen, S. and Kaimenakis, N. (2007). Intellectual Capital and Corporate Performance in Knowledge-Intensive SMEs. *Learning Organization*. 14(3), 241-262.
- Colurcio, M. (2009). TQM: A Knowledge Enabler? *The TQM Journal*. 2(3), 236-248.
- Connor, P. (1997). Total Quality Management: A Selective Commentary on Its Human Dimensions, with Special Reference to Its Downside. *Public Administration Review*. 57(6), 501-509.
- Cooper, D. R. and Schindler, P. S. (2003). *Business Research Methods*. (8th ed.). New York: McGraw-Hill.
- Cooper, D. R. and Schindler, P. S. (2008). *Business Research Methods*. (10th ed.). New York: McGraw-Hill.
- Cooper, D. R. and Schindler, P. S. (2011). *Business Research Methods*. (11th ed.). New York: McGraw-Hill/Irwin.
- Creswell, J. W. and Clark, V. L. P. (2007). *Designing and Conducting Mixed Methods Research*. London: SAGE Publications.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. (3rd ed.). London: SAGE Publications.
- Creswell, J. W. and Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research*. (2nd ed.). London: SAGE Publications.
- Crosby, P. B. (1996). *Quality is Still Free: Making Quality Certain in Uncertain Times*. New York: McGraw-Hill.
- Dahlgaard, J. J. and Dahlgaard-Park, S. M. (2006). Lean Production, Six Sigma Quality, TQM and Company culture. *The TQM Magazine*. 18(3), 263-281.
- Davis, P. (2006). Beyond Human Resource Management in Co-operatives. *Cross Cultural Management*. 13(1), 69-95.

- Day, D.V. (2001). Leadership Development: A Review in Context. *Leadership Quarterly*. 11(4), 581-613.
- De Castro, G. M. and Sáez, P. L. (2008). Intellectual Capital in High-tech Firms: The Case of Spain. *Journal of Intellectual Capital*. 9(1), 25-36.
- De Long, D. W. and Fahey, L. (2000). Diagnosing Culture Barriers to Knowledge Management. *Academy of Management Executive*. 14(4), 113-127.
- De Pablos, P. O. (2004). Measuring and Reporting Structural Ccapital: Lessons from European Learning Firms. *Journal of Intellectual Capital*. 5(4), 629 - 647.
- Deming, W. E. (1986). *Out of the Crisis: Quality, Productivity and Competitive Position*. Cambridge, Mass.: Cambridge University Press.
- Demirbag, M., Lenny Koh, S. C., Tatoglu, E. and Zaim, S. (2006a). TQM and Market Orientation's Impact on SMEs' Performance. *Industrial Management & Data Systems*. 106(8), 1206 - 1228.
- Demirbag, M., Tatoglu, E., Tekinkus, M. and Zaim, S. (2006b). An Analysis of the Relationship between TQM Implementation and Organizational Performance: Evidence from Turkish SMEs. *Journal of Manufacturing Technology Management*. 17(6), 829 - 847.
- Dess, G.G. and Robinson, R.B. (1984). Measuring Organizational Performance in the Absence of Objective Measures: the Case of the Privately-held Firm and Conglomerate Business Unit. *Strategic Management Journal*. 5(3), 265-273.
- Dewi Fariha Abdullah. (2014). *The Moderated Mediation Effect of the Internal Audit Function and Corporate Governance on Intellectual Capital and Corporate Performance*. Ph.D. Thesis. Universiti Teknologi Malaysia, Malaysia.
- Douglas, T. J. and Judge Jr, W. Q. (2001). Total Quality Management Implementation and Competitive Advantage: The role of Structural Control and Exploration. *Academy of Management Journal*. 44(1), 158-169.
- Drucker, P. (1989). *The new Realities*. New York, NY: Harper & Row.
- Easterby-Smith, M., Thorpe, R. and Jackson, P. R. (2008). *Management Research*. (3rd ed.). London: Sage Publications.
- Easton, G. S. and Jarrell, S. L. (1998). The Effects of Total Quality Management on Corporate Performance: An Empirical Investigation. *Journal of Business*. 71(2), 253-307.
- Edvinsson, L. (1997). Developing Intellectual Capital at Skandia. *Long Range Planning*. 30(3), 366-373.

- Edvinsson, L. and Sullivan, P. (1996). Developing a Model for Managing Intellectual Capital. *European Management Journal*. 14(4), 356-364.
- Ehigie, B. O. and McAndrew, E. B. (2005). Innovation, Diffusion and Adoption of Total Quality Management (TQM). *Management Decision*. 43(6), 925-940.
- Elmore, P. B. and Beggs, D. L. (1975). Salience of Concepts and Commitment to Extreme Judgments in the Response Patterns of Teachers. *Education*. 95(4), 325-330.
- Escrig-Tena, A. B. (2004). TQM as a Competitive Factor: A Theoretical and Empirical Analysis. *International Journal of Quality & Reliability Management*. 21(6), 612 - 637.
- Fairholm, G.W. (1998). Perspectives on Leadership: From the Science of Management to its Spiritual Heart. In Fry, L.W. (2003). *Toward a Theory of Spiritual Leadership*. *The Leadership Quarterly*. 14(6), 693-727.
- Fazli Idris, Mokhtar Abdullah, Mohd Ashari Idris and Nooreha Hussain. (2003). Integrating Resource-based View and Stakeholder Theory in Developing the Malaysian Excellence Model: A Conceptual Framework. *Singapore Management Review*. 25(2), 91-109.
- Fazli Idris, Mokhtar Abdullah, Mohd Ashari Idris, Nooreha Hussain and Khairul Anuar Ali. (2004). The Total Performance Excellence Model for Business Organizations in Malaysia. *Malaysian Management Review*. 39(2), 1-10.
- Fei, T. L. K. and Rainey, H. G. (2003). Total Quality Management in Malaysian Government Agencies: Conditions for Successful Implementation of Organizational Change. *International Public Management Journal*. 6(2), 145-172.
- Feigenbaum, A. V. and Feigenbaum, D. S. (2003). *The Power of Management Capital: Utilizing the New Drivers of Innovation, Profitability and Growth in a Demanding Global Economy*. New York: McGraw-Hill Trade.
- Field, A. (2005). *Discovering Statistics Using SPSS*. (2nd ed.). London: Sage Publications.
- Field, A. (2009). *Discovering Statistics Using SPSS*. (3rd ed.). London: Sage Publications.
- Finke, R. (2003). *Spiritual Capital: Definitions, Applications, and New Frontiers*. Retrieved on September 27, 2009, from <http://www.spiritualcapitalresearchprogram.com/pdf/finke.pdf>

- Forker, L. B., Mendez, D. and Hershauer, J. C. (1997). Total Quality Management in the Supply Chain: What is its Impact on Performance? *International Journal of Production Research*. 35(6), 1681-1701.
- Foss, N. J. and Ishikawa, I. (2007). Towards a Dynamic Resource-Based View: Insights from Austrian Capital and Entrepreneurship Theory. *Organization Studies*. 28(5), 749-772.
- Freshman, B. (1999). An Exploratory Analysis of Definitions and Applications of Spirituality in the Workplace. *Journal of Organizational Change Management*. 12(4), 318-327.
- Fry, L. W. (2003). Toward a Theory of Spiritual Leadership. *The Leadership Quarterly*. 14(6), 693-727.
- Fry, L. W. and Matherly, L. L. (2006). Spiritual Leadership and Organizational Performance: An exploratory Study. Paper presented at the Academy of Management, Atlanta, Georgia. Retrieved on January 3, 2010, from <http://www.tarleton.edu/Faculty/fry/SLTOrgPerf.pdf>
- Fry, L. W., Vitucci, S. and Cedillo, M. (2005). Spiritual Leadership and Army Transformation: Theory, Measurement, and Establishing a Baseline. *The Leadership Quarterly*. 16(5), 835-862.
- George, D. and Mallery, P. (2011). *SPSS for Windows Step by Step: A Simple Guide and Reference 18.8 Update*. (11th Ed.). Allyn and Bacon: Pearson.
- Ghoshal, S. and Nahapiet, J. (1998). Social Capital, Intellectual Capital, and the Organizational Advantage. *Academy of Management Review*. 23(2), 242-267.
- Gillett, D. (2008). *Noble Enterprise: The Commonsense Guide to Uplifting People and Profits*. New York: Cosimo Inc.
- Goetsch, D. L. and Davis, S. B. (2010). *Quality Management for Organizational Excellence: Introduction to Total Quality*. Upper Saddle River, N. J.: Prentice-Hall.
- Guest, M. J. (2007). In Search of Spiritual Capital: The Spiritual as a Culture Resource. In Flanagan, K. and Jupp, P. C. (Ed.) *The Sociology of Spirituality*. (pp. 181-200). Aldershot: Ashgate.
- Green, S. B. (1991). How Many Subjects Does It Take to Do a Regression Analysis?. *Multivariate Behavioral Research*. 26(3), 499-510.

- Greene, J. C. (2005). The Generative Potential of Mixed Methods Inquiry. *International Journal of Research and Method in Education*. 28(2), 207-211.
- Habersam, M., Piber, M. and Skoog, M. (2013). Knowledge Balance Sheets in Austrian Universities: The Implementation, Use, and Re-shaping of Measurement and Management Practices. *Critical Perspectives on Accounting*. 24(4-5), 319-337.
- Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2010). *Multivariate Data Analysis*. (7th ed.). New Jersey, NJ: Prentice Hall.
- Hair, J. F., Money, A. H., Samouel, P. and Page, M. (2007). *Research Methods for Business*. Hoboken, N.J.: John Wiley & Sons Ltd.
- Heng, M. S. H. (2001). Mapping Intellectual Capital in a Small Manufacturing Enterprise. *Journal of Intellectual Capital*. 2(1), 53-60.
- Hermans, R. and Kauranen, I. (2005). Value Creation Potential of Intellectual Capital in Biotechnology - Empirical Evidence from Finland. *R&D Management*. 35(2), 171-185.
- Ho, R. (2006). *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*. Boca Raton, FL: Chapman & Hall/CRC
- Horibe, F. (1999). *Managing Knowledge Workers: New Skills and Attitudes to Unlock the Intellectual Capital in your Organization*. Toronto: John Wiley & Son.
- Hussain, F., Lucas, C., & Ali, M. A. (2004). Managing Knowledge Effectively. *Managing Knowledge Effectively*. Retrieved on June 21, 2010, from <http://www.tlinc.com/articl66.htm>
- Iannaccone, L. R. and Klick, J. (2003). *Spiritual Capital: An Introduction and Literature Review*. Retrieved April 21, 2012, from <http://www.metanexus.net/archive/spiritualcapitalresearchprogram/pdf/review.pdf>
- Idris, M. A. and Zairi, M. (2002). Sustainable Competitiveness through Quality Transformation: A Longitudinal Analysis of Quality Award Winners and a Proposed Framework. *Asian Academy of Management Journal*. 7(1), 35-55.
- Isaac, R. G., Herremans, I. M. and Kline, T. J. B. (2009). Intellectual Capital Management: Pathways to Wealth Creation. *Journal of Intellectual Capital*. 10(1), 81-92.

- Ittner, C. D. and Larcker, D. F. (2003). Coming Up Short on Nonfinancial Performance Measurement. *Harvard Business Review*. 81(11), 88-95.
- Ittner, C. D., Larcker, D. F. and Randall, T. (2003). Performance Implications of Strategic Performance Measurement in Financial Service Firms. *Accounting, Organizations and Society*. 28(7), 715-741.
- Iversen, M. (2000). Synergies and Sustainable Competitive Advantage. Retrieved on January 3, 2011, from <http://openarchive.cbs.dk/bitstream/handle/10398/7236/wp00-7.pdf?sequence=1>
- Jelčić, K. (2007). *Intellectual Capital: Handbook of IC Management in Companies*. Zagreb: Intellectual Capital Center Croatia.
- Jiménez-Jiménez, D. and Martínez-Costa, M. (2009). The Performance Effect of HRM and TQM: A Study in Spanish Organizations. *International Journal of Operations & Production Management*. 29(12), 1266 - 1289.
- Johnson, W. H. A. (2002). Leveraging Intellectual Capital through Product and Process Management of Human Capital. *Journal of Intellectual Capital*. 3(4), 415-429.
- Jung, J. Y. and Hong, S. (2008). Organizational Citizenship Behaviour (OCB), TQM and Performance at the Maquiladora. *International Journal of Quality & Reliability Management*. 25(8), 793-808
- Juran, J. M. (1989). *Juran on Leadership for Quality: An Executive Handbook*. New York: The Free Press.
- Kamath, G. B. (2008). Intellectual Capital and Corporate Performance in Indian Pharmaceutical Industry. *Journal of Intellectual Capital*. 9(4), 684-704.
- Kamukama, N., Ahiauzu, A. and Ntayi, J. M. (2011). Competitive Advantage: Mediator of Intellectual Capital and Performance. *Journal of Intellectual Capital*. 12(1), 152-164.
- Kaplan, R. S. and Norton, D. P. (2004). *Strategy Maps: Converting Intangible Assets into Tangible Outcomes*. Boston, Mass.: Harvard Business School Press.
- Kaplan, R. S. and Norton, D. P. (1996). *The Balanced Scorecard: Translating Strategy into Action*. Boston, Mass.: Harvard Business School Press.
- Kaplan, R. S., & Norton, D. P. (1992). *The Balanced Scorecard: Measures that Drive Performance*. Harvard Business Review, 70(1), 71-79.

- Karapetrovic, S. (2002). Strategies for the Integration of Management Systems and Standards. *The TQM Magazine*. 14(1), 61 – 67.
- Karapetrovic, S. and Willborn, W. (1998). Integration of Quality and Environmental Management Systems. *The TQM Magazine*. 10(3), 204 – 213.
- Karami, A., Rowley, J. and Analoui, F. (2006). Research and Knowledge Building in Management Studies: An Analysis of Methodological Preferences. *International Journal of Management*. 23(1), 43-52.
- Kaynak, H. (2003). The Relationship between Total Quality Management Practices and Their Effects on Firm Performance. *Journal of Operations Management*. 21(4), 405-435.
- Kennedy, M. T. and Fiss, P. C. (2009). Institutionalization, Framing, and Diffusion: The Logic of TQM Adoption and Implementation Decisions among U.S. Hospitals. *The Academy of Management Journal*. 52(5), 897-918.
- Khanna, H. K., Laroiya, S. C. and Sharma, D. D. (2010). Integrated Management Systems in Indian Manufacturing Organizations: Some Key Findings from an Empirical Study. *The TQM Journal*. 22(6), 670 – 686.
- Kim, D. Y., Kumar, V., Kumar, U. and Hwang, Y. H. (2009). A Linkage Model for the Integrated Application of Intellectual Capital Management and the EFQM Business Excellence Model: The Case of an ISO 9001 Certified Public R&D Organisation. *International Journal of Learning and Intellectual Capital*. 6 (4), 303 – 323.
- Knight, D. J. (1999). Performance Measures for Increasing Intellectual Capital. *Strategy and Leadership*. 29(1), 22-28.
- Kolodinsky, R. W., Giacalone, R. A. and Jurkiewicz, C. L. (2008). Workplace Values and Outcomes: Exploring Personal, Organizational, and Interactive Workplace Spirituality. *Journal of Business Ethics*. 81(2), 465-480.
- Kondo, Y. (2001). Customer Satisfaction – How Can I Measure It?. *The 6th TQM World Congress*. Saint Petersburg. Retrieved on June 3, 2010, from http://www.blweb.it/esoe/tqmwc6/KeynoteSpeeches/25-30_s.pdf
- Kong, E., and Thomson, S. B. (2009). An Intellectual Capital Perspective of Human Resource Strategies and Practices. *Knowledge Management Research and Practice*. 7(4), 356-364.
- Krauss, S. E. (2005). Research Paradigms and Meaning Making: A Primer. *The Qualitative Report*. 10(4), 758-770.

- Krejcie, R. V. and Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*. 30, 607-610.
- Krishnakumar, S. and Neck, C. P. (2002). The “What”, “Why” and “How” of Spirituality in the Workplace. *Journal of Managerial Psychology*. 17(3), 153-164.
- Kristandl, G. and Bontis, N. (2007). Constructing a Definition for Intangibles Using the Resource Based View of the Firm. *Management Decision*. 45 (9), 1510-1524.
- Kumar, V., Choisne, F., de Grosbois, D. and Kumar, U. (2009). Impact of TQM on Company's Performance. *International Journal of Quality & Reliability Management*. 26(1), 23 - 37.
- Kwee, K. C. (2008). Intellectual Capital: Definitions, Categorization and Reporting Models. *Journal of Intellectual Capital*. 9 (4), 609 - 638.
- Lau, H. C. and Idris, M. A. (2001). The Soft Foundation of the Critical Success Factors on TQM Implementation in Malaysia. *TQM Magazine*. 13(1), 51-60.
- Leliaert, P. J. C., Candries, W. and Tilmans, R. (2003). Identifying and Managing IC: A New Classification. *Journal of Intellectual Capital*. 4(2), 202-214.
- Lim, K.K., Ahmed, P.K. and Zairi, M. (1999). Managing for Quality through Knowledge Management. In Martín-Castilla, J. I. and Rodríguez-Ruiz, O. (2008). EFQM Model: Knowledge Governance and Competitive Advantage. *Journal of Intellectual Capital*. 9(1), 133-156.
- Liu, C. (2009). Study on the Effect of Intellectual Capital on Firm Performance. *Proceedings of the 2009 International Conference on Management of e-Commerce and e-Government, ICMCG 2009*. 16-19 September. Nanchang: IEEE, 228-231.
- Marr, B., Schiuma, G. and Neely, A. (2004a). The Dynamics of Value Creation: Mapping Your Intellectual Performance Drivers. *Journal of Intellectual Capital*. 5(2), 312-325.
- Marr, B., Schiuma, G. and Neely, A. (2004b). Intellectual Capital – Defining Key Performance Indicators for Organizational Knowledge Assets. *Benchmarking: An International Journal*. 11(6), 551-569.
- Martín-Castilla, J. I. and Rodríguez-Ruiz, O. (2008). EFQM Model: Knowledge Governance and Competitive Advantage. *Journal of Intellectual Capital*. 9(1), 133-156.

- Mart ínez-Costa, M., Choi, T. Y., Mart ínez, J. A. and Mart ínez-Lorente, A. R. (2009). ISO 9000/1994, ISO 9001/2000 and TQM: The Performance Debate Revisited. *Journal of Operations Management*. 27(6), 495-511.
- Mayo, A. (2000). The Role of Employee Development in the Growth of Intellectual Capital. *Personnel Review*. 29(4), 521-533.
- Mazlan Ismail. (2005). *The Influence of Intellectual Capital on the Performance of Telekom Malaysia*. Ph.D. Thesis. Universiti Teknologi Malaysia, Skudai.
- MBNQA (Malcolm Baldrige National Quality Award). (2010). *2009-2010 Criteria for Performance Excellence*. Retrieved on January 7, 2011, from http://www.nist.gov/baldrige/publications/upload/2009_2010_Business_Non_profit_Criteria.pdf
- McCallum, S. and O'Connell, D. (2009). Social Capital and Leadership Development: Building Stronger Leadership through Enhanced Relational Skills. *Leadership & Organization Development Journal*. 30(2), 152 - 166.
- Melhem, Y. (2004). The Antecedents of Customer-Contact Employees' Empowerment. *Employee Relations*. 26(1), 72 - 93.
- MERITUM (2002). In Cañibano, I., Sánchez, P., Garcia-Ayuso, M. and Chaminade, C. (Eds.) *Guidelines for Managing and Reporting on Intangibles*. Fundación Airtel Móvil, Madrid. Retrieved on March 2, 2010, from <http://www.uam.es/proyectosinv/meritum/Link%20Guidelines%20Meritum/Version%20inglesa%20completa.pdf>
- Meso, P. and Smith, R. (2000). A Resource-Based View of Organizational Knowledge Management Systems. *Journal of Knowledge Management*. 4(3), 224-234.
- Metanexus Spiritual Capital Research Program. (2006). *What is Spiritual Capital?*. Retrieved on June 1, 2010, from http://www.spiritualcapitalresearchprogram.com/What_is.asp.
- Meyers, L. S., Gamst, G. and Guarino, A. J. (2006). *Applied Multivariate Research: Design and Interpretation*. Thousand Oaks, CA: SAGE Publications, Inc.
- Miller, W. J. (1996). A Working Definition for Total Quality Management (TQM) Researchers. *Journal of Quality Management*. 1(2), 149-159.
- Mohd Najib Tun Haji Abdul Razak (2010a). *Invest Malaysia 2010*. Retrieved on June 21, 2010, from

<http://www.ssig.gov.my/ssig/kcent/material/pm%20speech%20invest%20MAL%5B1%5D.pdf>

- Mohd Najib Tun Haji Abdul Razak (2010b). *1Malaysia People First Performance Now*. Retrieved on August 18, 2010, from http://www.ssig.gov.my/ssig/kcent/material/1malaysia_-_english_version%5B1%5D.pdf.
- Molina-Azorin, J. F., Tari, J. J., Claver-Cortes, E. and Lopez-Gamero, M. D. (2009). Quality Management, Environmental Management and Firm Performance: A Review of Empirical Studies and Issues of Integration. *International Journal of Management Reviews*. 11(2), 197-222.
- Moon, Y. J. and Kym, H. G. (2006). A Model for the Value of Intellectual Capital. *Canadian Journal of Administrative Sciences*. 23(3), 253-269.
- Muhammad Madi, B. A., Zainal, A. A. and Azman, I. (2008). The Importance of Soft Factors for Quality Improvement: Case Study of Electrical and Electronics Firms in Malaysia. *International Journal of Business and Management*. 3(12), 60-69.
- Müller C. and Raich M. (2005). The Ambiguous Relationship of Leadership and Intellectual Capital: Understanding How Intellectual Capital is Developed. *The Electronic Journal of Knowledge Management*. 3(1), 35-44.
- Nazari, J. A., Herremans, I. M., Isaac, R. G., Manassian, A. and Kline, T. J. B. (2011). Organizational Culture, Climate and IC: An Interaction Analysis. *Journal of Intellectual Capital*. 12(2), 224-248.
- Neely, A. (1999). The Performance Measurement Revolution: Why Now and What Next?. *International Journal of Operations & Production Management*. 19(2), 205-228.
- Nerdrum, L. and Erikson, T. (2001). Intellectual Capital: A Human Capital Perspective. *Journal of Intellectual Capital*. 2(2), 127-135.
- New Economic Model Timely. (2010, March 16). *Daily Express*. Retrieved on June 21, 2010, from <http://www.dailyexpress.com.my/news.cfm?NewsID=71277>.
- Niven, P. R. (2006). *Balanced Scorecard Step-by-Step: Maximizing Performance and Maintaining Results*. (2nd ed.). Hoboken, NJ : John Wiley & Sons.
- Noe, R. A., Hollenbeck, J., Gerhart, B. and Wright, P. M. (2010). *Human Resource Management: Gaining a Competitive Advantage*. (7th ed.). New York, NY: McGraw-Hill/Irwin.

- Noradiva Hamzah and Fauziah Selamat. (2007). The Linkage between Intellectual Capital Management and Organisational Performance. *International Management Accounting Conference IV*. 15-17 August 2007. Kuala Lumpur, Malaysia: IMAC IV, 1-20.
- Norusis, M. J. (2010). *PASW Statistics 18 Guide to Data Analysis*. Upper Saddle River, NJ: Prentice Hall.
- Oakland, J. S. (2003). *Total Quality Management: Text with Cases*. (3rd ed.) Oxford: Butterworth Heinemann.
- O'Dell, C., Wiig, K. and Odem, P. (1999). Benchmarking Unveils Emerging Knowledge Management Strategies. *Benchmarking: An International Journal*. 6(3), 202 - 211.
- Olander, H., Hurmelinna-Laukkanen, P. and Heilmann, P. (2015). Human Resources – Strength and Weakness in Protection of Intellectual Capital. *Journal of Intellectual Capital*. 16(4), 742 – 762.br
- Olalla, M. F. (1999). The Resource-Based Theory and Human Resources. *International Advances in Economic Research*. 5(1), 84-92.
- Onwuegbuzie, A. J. and Leech, N. L. (2006). Linking Research Questions to Mixed Methods Data Analysis Procedures. *The Qualitative Report*. 11(3), 474-498.
- Ooi, K.-B., Teh, P.-L. and Chong, A. Y.-L. (2009). Developing an Integrated Model of TQM and HRM on KM Activities. *Management Research News*. 32(5), 477 - 490.
- Pallant, J. (2007). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows Version 15*. (3rd ed.). London, UK: McGraw-Hill.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods*. (3rd ed.). Thousand Oaks, California: Sage Publications.
- Pearse, N. J. (2009). The Role of Experiences in Creating and Developing Intellectual Capital. *Management Research News*. 32(4), 371 - 382.
- Petchsawanga, P. and Duchon, D. (2012). Workplace Spirituality, Meditation, and Work Performance. *Journal of Management, Spirituality & Religion*. 9(2), 189-208.
- PM Tables RM230bil 10th Malaysia Plan. (2010, June 10). *The Star*. Retrieved on July 20, 2010, from <http://thestar.com.my/news/story.asp?sec=nation&file=/2010/6/10/nation/20100610094152>

- Powell, T. C. (1995). Total Quality Management as Competitive Advantage: A Review and Empirical Study. *Strategic Management Journal*. 16(1), 15-37.
- Prajogo, D. I. and McDermott, C. M. (2005). The Relationship between Total Quality Management Practices and Organizational Culture. *International Journal of Operations & Production Management*. 25(11), 1101 - 1122.
- Prajogo, D. I. and Sohal, A. S. (2001). TQM and Innovation: A Literature Review and Research Framework. *Technovation*. 21(9), 539-558.
- Prajogo, D. I. and Sohal, A. S. (2006). The Integration of TQM and Technology/R&D Management in Determining Quality and Innovation Performance. *Omega*. 34(3), 296-312.
- Rakich, J. (2000). Strategic Quality Planning. *Hospital Topic.*, 78(2), 5-11.
- Rampersad, H. K. and El-Homsi, A. (2007). *TPS-Lean Six Sigma: Linking Human Capital to Lean Six Sigma*. New York: Information Age Publishing.
- Rego, A. and E Cunha, M. P. (2008). Workplace Spirituality and Organizational Commitment: An Empirical Study. *Journal of Organizational Change Management*. 21(1), 53-75.
- Reily, R. R. and Campbell, B. (1990). How Corporate Performance Measurement Systems Inhibit Globalization. *Human Resource Management*. 29(1), 63-68.
- Remenyi, D., Williams, B., Money, A. and Swartz, E. (1998). *Doing Research in Business and Management: An Introduction to Process and Method*. Thousand Oaks, CA: Sage Publications.
- Roos, G. (2005). Intellectual Capital and Strategy: A Primer for Today's Manager. *Handbook of Business Strategy*. 6(1), 123-132.
- Roos, G., Bainbridge, A. and Jacobsen, K. (2001). Intellectual Capital Analysis as a Strategic Tool. *Strategy Leadership*. 29(4), 21-26.
- Roos, G., Pike, S. and Fernstrom, L. (2005). *Managing Intellectual Capital in Practice*. New York, NY :Butterworth-Heinemann.
- Roos, G. and Roos, J. (1997). Measuring Your Company's Intellectual Performance. *Long Range Planning*. 30(3), 413-426.
- Roscoe, J. T. (1975). Fundamental Research Statistics for the Behavioral Science. In Sekaran, U. (2003). *Research Methods for Business: A Skill-Building Approach*. (4th ed.). New York: John Wiley & Sons.

- Rouse, M. J. and Daellenbach, U. S. (1999). Rethinking Research Methods for the Resource-Based Perspective: Isolating Sources of Sustainable Competitive Advantage. *Strategic Management Journal*. 20(5), 487–494.
- Ruževičius, J. (2006). Integration of Total Quality Management and Knowledge Management. *Informacijos Mokslai*. 37, 30-38.
- Sadikoglu, E. and Zehir, C. (2010). Investigating the Effects of Innovation and Employee Performance on the Relationship between Total Quality Management Practices and Firm Performance: An Empirical Study of Turkish Firms. *International Journal of Production Economics*. 127(1), 13-26.
- Saez, P. L., de Castro, G. M., Lopez, J. E. N. and Delgado-Verde, M. (Ed.) (2010). *Intellectual Capital and Technological Innovation: Knowledge-Based Theory and Practice*. Hershey, PA: Information Science Reference.
- Samson, D. and Terziovski, M. (1999). The Relationship between Total Quality Management Practices and Operational Performance. *Journal of Operations Management*. 17(4), 393-409.
- Saraph, J. V., Benson, P. G. and Schroeder, R. G. (1989). An Instrument for Measuring the Critical Factors of Quality Management. *Decision Sciences*. 20(4), 810-829.
- Saunders, M. N. K., Lewis, P. and Thornhill, A. (2007). *Research Methods for Business Students*. (4th ed.). Harlow: Pearson.
- Saunders, M. N. K., Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Students*. (5th ed.). New York: Prentice Hall.
- Saudah Sofian. (2005). *Intellectual Capital and Management Accounting Practices*. Ph.D. Thesis. University of Bradford, Bradford.
- Scheaffer, R. L., Mendenhall, W. and Ott, L. (2006). *Elementary Survey Sampling*. (6th ed.). Australia : Thomson Brooks.
- Scarbrough, H., Robertson, M., and Swan, J. (2015). Diffusion in the Face of Failure: The Evolution of a Management Innovation. *British Journal of Management*. 26(3), 365-387.
- Sebastianelli, R. and Tamimi, N. (2003). Understanding the Obstacles to TQM Success. *Quality Management Journal*. 10(3), 45-56.
- Sekaran, U. (2003). *Research Methods for Business: A Skill-Building Approach*. (4th ed.). New York: John Wiley & Sons.

- Seleim, A., Ashour, A. and Bontis, N. (2007). Human Capital and Organizational Performance: A Study of Egyptian Software Companies. *Management Decision*. 45 (4), 789 - 801.
- Shang, S. S. C. and Lin, S. F. (2010). A Model of Intellectual Capital Management Capability in the Dynamic Business Environment. *Knowledge Management Research & Practice*. 8(1), 15-23.
- Shewhart, W. A. (1980). *Economic Control of Quality of Manufacturing Product*. New York: D Van Nostrand Company.
- Sila, I. (2007). Examining the Effects of Contextual Factors on TQM and Performance through the Lens of Organizational Theories: An Empirical Study. *Journal of Operations Management*. 25(1), 83-109.
- Sila, I. and Ebrahimpour, M. (2005). Critical Linkages among TQM Factors and Business Results. *International Journal of Operations & Production Management*. 25(11), 1123 – 1155.
- Simons, R. (2000). *Performance Measurement and Control Systems for Implementing Strategy: Text and Cases*. Upper Saddle River, N.J.: Prentice-Hall.
- Sinclair, D. and Zairi, M. (1995). Performance Measurement as an Obstacle to TQM. *The TQM Magazine*. 7(2), 42-45.
- Solitander, M. and Tidström, A. (2010). Competitive Flows of Intellectual Capital in Value Creating Networks. *Journal of Intellectual Capital*. 11(1), 23 - 38.
- St-Pierre, J. e. and Audet, J. e. (2011). Intangible Assets and Performance: Analysis on Manufacturing SMEs. *Journal of Intellectual Capital*. 12(2), 202-223.
- Stewart, T. A. (1998). *Intellectual Capital: The New Wealth of Organizations*. London: Nicholas Brealey.
- Sullivan Jr, P. H. and Sullivan Sr, P. H. (2000). Valuing Intangibles Companies – An Intellectual Capital Approach. *Journal of Intellectual Capital*. 1(4), 328-340.
- Sveiby, K.-E. (2001). A Knowledge-Based Theory of the Firm to Guide in Strategy Formulation. *Journal of Intellectual Capital*. 2(4), 344-358.
- Tabachnick, B. G. and Fidell, L. S. (2001). *Using Multivariate Statistics*. (4th ed.). Boston: Allyn & Bacon.
- Tar í J. J. and Molina-Azorin, J. F. (2010). Integration of Quality Management and Environmental Management Systems: Similarities and the Role of the EFQM Model. *The TQM Journal*. 22(6), 687-701.

- Tar í J. J., Molina-Azorin, J. F. and Castej ón, J. L. (2007). The Relationship between Quality Management Practices and Their Effects on Quality Outcomes. *European Journal of Operational Research*. 183(2), 483-501.
- Teece, D. J. (1998). Capturing Value from Knowledge Assets: The New Economy, Markets for Know-how, and Inatngible Assets. *California Management Review*. 40(3), 55-79.
- Terziovski, M. and Samson, D. (1999). The Link between Total Quality Management Practice and Organisational Performance. *International Journal of Quality & Reliability Management*. 16(3), 226-237.
- Terziovski, M. and Samson, D. (2000). The Effect of Company Size on the Relationship between TQM Strategy and Organisational Performance. *The TQM Magazine*. 12(2), 144 - 149.
- Usoff, C. A., Thibodeau, J. C. and Burnaby, P. (2002). The Importance of Intellectual Capital and its Effect on Performance Measurement Systems. *Managerial Auditing Journal*. 17(1/2), 9-15.
- Wang, W. Y. and Chang, C. (2005). Intellectual Capital and Performance in Causal Models: Evidence from the Information Technology Industry in Taiwan. *Journal of Intellectual Capital*. 6(2), 222-236.
- Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal*. 5(2), 171-180.
- Williamson, O.E. (1975). Markets and Hierarchies. In De Pablos, P. O. (2004). Measuring and Reporting Structural Capital: Lessons from European Learning Firms. *Journal of Intellectual Capital*. 5(4), 629-627.
- Wiig, K. M. (1997). Integrating Intellectual Capital and Knowledge Management. *Long Range Planning*. 30(3), 399-405.
- Winn, B. A. and Cameron, K. S. (1998). Organizational Quality: An Examination of the Malcolm Baldrige National Quality Framework. *Research in Higher Education*. 39(5), 491-512.
- Yin, R. K. (2003). *Case Study Research: Design and Methods*. (3rd Ed). Thousand Oaks, Calif. : Sage Publications.
- Yin, R. K. (2012). *Applications of Case Study Research*. (3rd Ed). Thousand Oaks, Calif. : Sage Publications.

- York, K. M. and Miree, C. E. (2004). Causation or Covariation: An Empirical Re-Examination of the Link between TQM and Financial Performance. *Journal of Operations Management*. 22(3), 291-311.
- Youndt, M. A. and Snell, S. A. (2004). Human Resource Configurations, Intellectual Capital, and Organizational Performance. *Journal of Managerial Issues*. 16(3), 337-360.
- Youndt, M. A., Subramaniam, M. and Snell, S. A. (2004). Intellectual Capital Profiles: An Examination of Investments and Returns. *Journal of Management Studies*. 41(2), 335-361.
- Zakuan, N. M., Yusof, S. M. and Shaharoun, A. M. (2009). The Link between Total Quality Management and Organizational Performance in Malaysian Automotive Industry: The Mediating Role of ISO/TS16949 Efforts. *Proceeding of the 2009 IEEE International Conference on Industrial Engineering and Engineering Management*. 8-11 December. Hong Kong: IEEE, 439-443.
- Zhao, F. and Bryar, P. (2001). Integrating Knowledge Management and Total Quality: A Complementary Process. *Proceedings of the 6th International Conference on ISO 9000 and TQM*. 17-19 April. Scotland, United Kingdom 390-405.
- Zigan, K. and Zeglat, D. (2010). Intangible Resources in Performance Measurement Systems of the Hotel Industry. *Facilities*. 28(13), 597-610.
- Živojinović, S. and Stanimirović, A. (2009). Knowledge, Intellectual Capital and Quality Management as well as Balanced Scorecard Lead to Improved Competitiveness and Profitability. *International Journal for Quality Research*. 3(4), 339-351.
- Zohar, D. and Marshall, I. (2004). *Spiritual Capital: Wealth We Can Live By*. San Francisco, California: Berrett-Koehler Publishers.
- Zutshi, A. and Sohal, A. S. (2005). Integrated Management System: The Experiences of Three Australian Organisations. *Journal of Manufacturing Technology Management*. 16(2), 211 - 232