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

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

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This research is especially dedicated to my family and friends for their kindness and support and everything they have done for me.
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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.
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 pada IC atau TQM dalam persekitaran persaingan dan konteks permintaan semasa yang tinggi kerana kedua-duanya melengkapi 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 kendiri 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 bersukan antara 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 diintegrasi dengan pelaksanaan TQM, ia dapat meningkatkan prestasi korporat.
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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 subsections.

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; Brookings, 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
(Martínez-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 organized 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 Martín-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, Martín-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 affect 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.
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