

CRITICAL SUCCESS FACTORS FOR
CORPORATE SOCIAL RESPONSIBILITY
ADOPTION IN THE MALAYSIAN
CONSTRUCTION SECTOR: A DELPHI STUDY



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ABSTRAK

Fakta bahawa sektor pembinaan dipenuhi dengan pelbagai amalan tidak beretika menuntut keperluan mendesak untuk mempromosikan falsafah perniagaan yang beretika sesuai dengan konsep tanggungjawab sosial korporat (TSK). Walau bagaimanapun, pemahaman konsep TSK dalam sektor ini dan bagaimana mempraktikkannya, adalah terhad. Kajian ini bertujuan untuk meneroka faktor kejayaan kritikal (FKK) bagi penerapan TSK dalam sektor pembinaan di Malaysia. Dua kaedah kajian iaitu teknik Delphi dan kajian kes telah digunakan. Teknik Delphi tiga-lelaran digunapakai untuk mengenal pasti dan menarafkan FKK mengikut keutamaan. Satu panel terdiri dari enam belas pakar sektor pembinaan telah dibentuk untuk mengambil bahagian dalam kajian ini. Senarai dua belas faktor yang berpotensi diambil dari literatur dan dimasukkan dalam soal selidik Delphi Lelaran 1. Dalam proses sumbang saran Delphi Lelaran 1, sebelas faktor telah mencapai kata sepakat kerana dipilih lebih dari 50% oleh para pakar. Sebagai tambahan, empat faktor baru yang dicadangkan oleh para pakar telah diterima pakai. Hasilnya, lima belas faktor yang muncul dari pusingan ini dimasukkan dalam soal selidik Delphi Lelaran 2. Dalam proses pemeringkatan di Delphi Lelaran 2, kesepakatan yang diukur oleh nilai Kendall's W adalah 0.398, menunjukkan kesepakatan yang lemah diantara pakar dan keperluan lelaran seterusnya. Dalam proses maklumbalas terkawal di Delphi Lelaran 3, nilai Kendall's W meningkat kepada 0.784 yang menunjukkan kesepakatan yang kuat telah dicapai. Hasil kajian menunjukkan bahawa penerapan TSK yang berjaya bergantung pada lapan FKK: sumber kewangan, sokongan pengurusan atasan, kemahiran pengurusan dalaman terhadap TSK, pertumbuhan ekonomi negara, pendidikan dan latihan pekerja terhadap TSK, penyertaan pemegang taruh utama dalam proses TSK, komunikasi TSK yang berkesan, dan struktur organisasi. Tahap kesediaan firma pembinaan di Malaysia untuk menerapkan TSK juga telah dinilai bersandarkan FKK yang telah ditentukan. Satu siri wawancara dilakukan dengan lima responden dari lima firma pembinaan tempatan mengenai amalan semasa TSK mereka. Didapati bahawa firma-firma tersebut telah mempraktikkan sepenuhnya atau sebahagiannya kelapan-lapan FKK tersebut. Adalah selamat untuk menyimpulkan bahawa firma pembinaan Malaysia bersedia menerapkan TSK sebagai amalan mereka. Walaupun begitu, mereka perlu menambahbaik amalan mereka terhadap FKK untuk mendapatkan hasil maksimum dari penerapan TSK. Kajian ini menekankan bahawa kerangka kerja TSK amat berguna sebagai landasan yang tepat bagi strategi mitigasi berkesan untuk meningkatkan reputasi sektor pembinaan dan juga sebagai alat persaingan yang strategik bagi firma pembinaan untuk kekal mampan dalam perniagaan. Akhirnya, penggubal dasar juga boleh mempertimbangkan penemuan tersebut ketika mempromosikan agenda TSK atau program pembangunan untuk sektor pembinaan di Malaysia.

ABSTRACT

The fact that construction sector was plagued with a broad variety of unethical practices has called for the urgent need to promote an ethical business philosophy in line with the concept of corporate social responsibility (CSR). However, understanding the concept of CSR in this sector and how to practice it, is limited. This study aims to explore the critical success factors (CSFs) for CSR adoption in the Malaysian construction sector. Two research approaches were adopted including a Delphi technique and a case study. A three-round Delphi technique was used to identify and rank the top most CSFs. A panel of sixteen construction sector experts was formed to participate in the study. A list of twelve potential factors was extracted from literature and included in Delphi Round 1 questionnaire. In Delphi Round 1 brainstorming process, eleven factors have achieved consensus as selected for more than 50% by the experts. In addition, four new factors suggested by the experts were accepted. As a result, fifteen factors emerged from this round were included in Delphi Round 2 questionnaire. In the ranking process of Delphi Round 2, consensus as measured by Kendall's W value was found to be 0.398, indicated a weak agreement among experts and the need for another Delphi round. In Delphi Round 3 controlled feedback process, Kendall's W value increased to 0.784 which implied a strong consensus was reached. The results showed that successful adoption of CSR depends on eight CSFs: financial resources, top management support, managerial or internal CSR skills, national economic growth, employees' education and training on CSR, the participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. Level of readiness of the Malaysian construction firms to adopt CSR was measured against the validated CSFs. A series of interviews was conducted with five respondents from five local construction firms concerning their current CSR practice. It was noticed that the firms had already entirely or partially practiced the eight CSFs. It would be safe to conclude that the Malaysian construction firms are ready to adopt CSR into practice. Nonetheless, they need to improve their practice on the established CSFs to gain maximum results from CSR adoption. This study highlighted that CSR framework could be useful as the platform for advanced mitigation strategies to improve the construction sector's image and also as a strategic competitive tool for the firms to remain sustainable in business. Finally, policymakers could also consider the findings when promoting CSR agenda or development programs in the Malaysian construction sectors.

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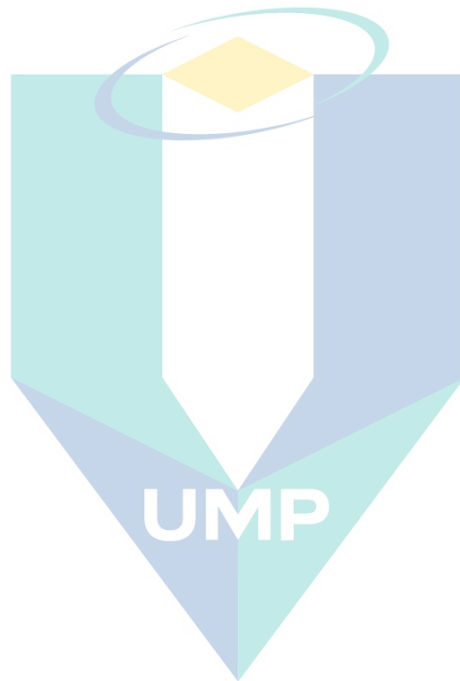
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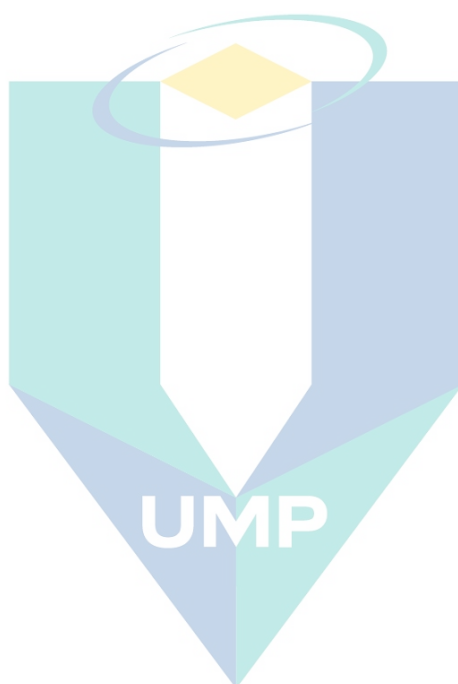
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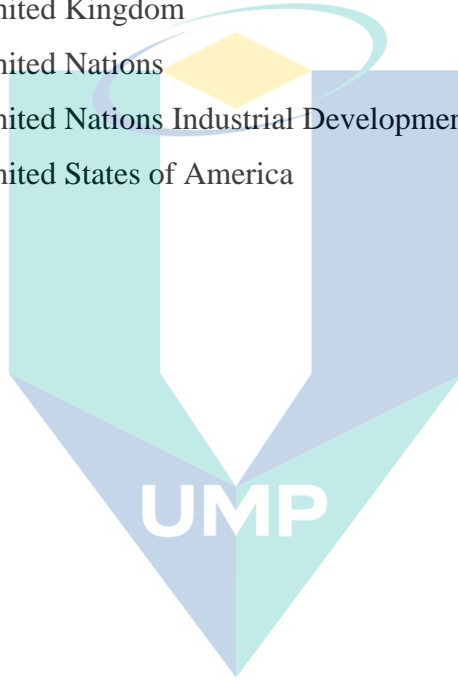


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LIST OF ABBREVIATIONS

CEM	Construction Engineering Management
CSFs	Critical Success Factors
CSR	Corporate Social Responsibility
GDP	Gross Domestic Product
SMEs	Small and Medium-Sized Enterprises
TBL	Triple Bottom Line
UK	United Kingdom
UN	United Nations
UNIDO	United Nations Industrial Development Organisation
USA	United States of America



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CHAPTER 1

INTRODUCTION

1.1 Introduction

The rising of public demand for transparency and accountability has called on businesses to redefine their position along with their financial targets to include contributions to society and the environment. Therefore, the conventional definition of a business that focuses exclusively on profit maximization has no longer been considered a firm's primary priority (Meyer, 2015). As a result, today's businesses are not only judged by financial performance but also by accountability for their social and environmental responsibilities (Chauhan & Amit, 2014; Duman, Girtli, & McDermott, 2016; Liu, Kang, & Hsueh, 2018). As a consequence, corporate social responsibility (often referred to as CSR) has grown in importance and significance in the current business environment (Carroll, 201).

Generally, CSR is about an ethical behavior of a business that can be described as an incorporation of business and society into corporate policies and practices (Popa, 2015; Sharma, 2015; Carroll, 2016). Lambooy (2014) noted that the emergence of CSR depends primarily on the legal basis of sustainable development, driven by social and business factors that considerably differ between countries. Thus, it is not surprising that, to date, there has been no single commonly accepted definition of CSR. As a result, CSR was interpreted and understood differently between the nation and the business sector. In defining CSR, the current study used the definition provided by the Malaysian Companies Commission (2017) as “the commitment by corporations and businesses towards achieving sustainability in the social, economic and environmental conditions in furtherance to the pursuit of profitability”. Throughout the course this definition was extended to describe the concept of CSR in the Malaysian construction sector.

While CSR is voluntary in nature, it has been described as a strategic tool for a long-term sustainable competitive advantage by enabling firms to improve their market position and contribute to higher level of financial performance (Maduenõ, Jorgea, Conesa, & Martínez-Martínez, 2016; Stoian & Gilman, 2017; Buscombe, 2018). Correlation between CSR and competitive advantage can be achieved if social needs, environmental limits and corporate priorities are well blended (Ljubojevic, Ljubojevic, & Maksimovic, 2012). Porter and Kramer (2011) identified the relation as “creating shared value” which is interdependent on anticipated business success and social welfare.

As an organisational phenomenon, CSR is rapidly widespread and noticeable in many economic sectors around the world and the construction sector is not exempted. In the construction sector, however, the CSR phenomenon is relatively isolated, narrowly oriented, immature, compliance-based, and operational rather than strategic (Loosemore & Lim, 2017). This has led to the conclusion that the concept of CSR in the construction sector is fairly new and how it was implemented has yet to be clearly understood (Larsen, Phua & Kao, 2012; Bevan & Yung, 2015; Abdullah, Mohandes, Hamid & Singh, 2016; Duman, Giritli & McDermott, 2016; Lim & Loosemore, 2017).

From this point of departure, this study aims to add to the established body of knowledge by providing the critical success factors (often referred to as CSFs) that influence the successful adoption of CSR agenda in the Malaysian construction sector. Nevertheless, construction sectors in other countries, especially in the context of developing countries, should also consider the outcomes of this study on how to implement CSR in their construction sector, and in turn, maximum benefits from this initiative should be expected.

1.2 Research Background

The construction sector has played an important role in the development of the Malaysian economy since independence in 1957. Revenue production, capital growth, and job creation are among the sector’s essential outputs that contribute to gross domestic product (GDP) and socioeconomic development (Khan, Liew, & Ghazali, 2014). Today, in light of the Malaysian Vision 2020, Malaysia is heading toward a developed country status from the developing world. In this regard, the construction sector has been called

upon to be more competitive and to make a major contribution to Malaysia's target of becoming a developed nation by 2020 (CIDB, 2015). Table 1.1 displays the performance of the Malaysian construction sector for the years 2015 and 2017.

Table 1.1 Performance of the Malaysian Construction Sector (2015 and 2017)

Key Economic Statistics	Year		Growth (%)
	2015	2017	
Value of Gross Output (RM billion)	177.9	204.4	7.2
Value of Intermediate Input (RM billion)	114.8	131.8	7.2
Value Added (RM billion)	63.2	72.6	7.2
Number of Person Engaged (persons)	1,290,474	1,330,266	1.5
Salaries and Wages Paid (RM billion)	32.9	39.2	9.1
Value of Fixed Asset (RM billion)	25.1	27.9	5.4
Share of GDP (%)	4.4	4.6	0.2

Source: Department of Statistics Malaysia (2019)

The sector reported RM204.4 billion of gross output in 2017 against RM177.9 billion in 2015 with an annual growth rate of 7.2%. In line with the rapid increase in gross output, the value of intermediate input also increases from RM114.8 billion in 2015 to RM131.8 billion in 2017 with the same growth. As a result, the construction sector's value-added rose from RM63.2 billion in 2015 to RM72.6 billion in 2017 with a higher annual growth rate of 7.2%. The report also announced that in 2017, the annual growth rate for the number of people engaged in the construction sector increased by 1.5% from 1,290,474 people in 2015 to 1,330,266 people. The annual growth rate of salaries and wages paid registered a 9.1% rise from RM32.9 billion to RM39.2 billion over the period published. Meanwhile, fixed asset value has risen from RM25.1 billion in 2015 to RM27.9 billion in 2017 with an annual growth rate of 5.4%. Also, the share of GDP in the construction sector recorded an annual growth of 0.2% from 4.4% in 2015 to 4.6% in 2017.

In Malaysia, the Construction Industry Development Board (CIDB) is the sole authority under the Ministry of Works which is responsible for overseeing all matters that concern or relate to the construction sector. In particular, under the Construction Industry

Development Board Act 1994 (Act 520), the CIDB was formed to control, develop and promote the construction sector in Malaysia towards achieving global competitiveness. The key objective for which CIDB was developed is to reinforce the foundations of the Malaysian construction sector by developing the sector's capacity and capabilities in term of improving quality and productivity. It is expected that this goal can be accomplished by putting great emphasis on integrity, creativity and expertise in efforts to enhance the quality of life (CIDB, 2020).

In compliance with the given mission, CIDB has been made a compulsory prerequisite for all construction firms to register in one of the seven registration classifications as a license to operate in the Malaysian construction sector. As shown in Table 1.2, the classifications for registration are based on the amount of qualifying tender and its financial ability.

Table 1.2 Contractor Registration Classifications

Grade	Limit of Tender	Paid-up/Net Capital Worth
G1	Not exceeding RM200,000.00	RM5,000.00 or RM10,000.00 (SPKK)
G2	Not exceeding RM500,000.00	RM25,000.00
G3	Not exceeding RM1,000,000.00	RM50,000.00
G4	Not exceeding RM3,000,000.00	RM150,000.00
G5	Not exceeding RM5,000,000.00	RM250,000.00
G6	Not exceeding RM10,000,000.00	RM500,000.00
G7	No limit	RM750,000.00

Source: CIDB (2016)

According to the classifications, Grade 1 or G1 is the smallest category with an admissible tendering capacity not exceeding RM200,000.00 and G7 is the largest grade without any restriction for tendering. Additionally, contractors must have a minimum capital in terms of paid-up capital or net capital worth consistent with the registration classifications, and they must retain adequate funds during their registration periods. For example, if the firm wants to register in G1 (CIDB, 2016), it must have a minimum of RM5,000.00 or RM10,000.00 with Government Work Procurement Certification (SPKK), in terms of paid-up capital or net capital value.

It has also made mandatory provisions for the construction firms to have qualified technical persons before permitting registration in the required grades. The technical persons may be the owners, directors or full-time employees. They also must be a Malaysian citizen holding a certificate or diploma or degree or certificate of competency in the construction related field recognised by the Malaysian Government or CIDB (CIDB, 2016). Table 1.3 indicates the minimum qualification of technical persons for different registration grades.

Table 1.3 Qualification of Technical Person for Different Registration Grades

Grade	Qualification of Technical Person
G1	A technical certificate holder (if any)
G2	
G3	
G4	A diploma holder
G5	A diploma holder with five years' experience or a bachelor's degree holder with one-year experience
G6	A bachelor's degree holder or a diploma holder with at least one of them must have a minimum three years' experience
G7	Two bachelor's degree holders with at least one of them must have a minimum five years' experience or a bachelor's degree holder and a diploma holder with both of them must have a minimum five years' experience.

Source: CIDB (2016)

Under the requirements, it is not strictly mandatory for a firm to register as the G1, G2, and G3 contractor to have a technical individual. At the other hand, in order to register as a G4 construction firm, a firm must have at least one qualified individual holding a diploma. While, as a mandatory prerequisite for G6 and G7 registration, the firm has to provide at least two qualified technical persons with an adequate experience. On the basis of these requirements, it can be understood that if a firm is founded by two professional technical persons with sufficient experience, the firm is entitled to register as a construction firm in the G7 classification. On the other hand, if a firm was set up by

two non-technical persons and hired two other full-time professional workers with a bachelor's degree in the field of construction, then with four personnel including directors and workers, the firm was also qualified to register as a G7 construction firm.

In view of Malaysia's definition of a small and medium-sized enterprise (SME) as "an enterprise with a revenue turnover not exceeding RM20 million or full-time workers not exceeding 75" (SME Corporation Malaysia, 2016), and the mandatory requirements for technical staff, it is not surprising that SMEs leading the construction sector in Malaysia since they are the majority of firms in this sector. This fact is in line with the report released by the Malaysian Department of Statistics (2017) that of the total 40,558 registered companies in the Malaysian construction sector in 2015, 96.5% or 39,158 are listed as SMEs. In reality, SMEs dominated not only the Malaysian construction sector but also the construction sector worldwide (Larsen, Phua, & Kao, 2012). Provided that the majority of firms operating in the construction sector are SMEs, their characteristics are greatly affected the current sector practices (Larsen, Phua, & Kao, 2012; Kamal & Flanagan, 2014; Bevan & Yung, 2015; Duman, Giritli, & McDermott, 2016).

In 2006, the CIDB launched a comprehensive plan called the Construction Industry Master Plan (CIMP) to map the strategic role and future development of the Malaysian construction sector over the ten-year period from 2006 to 2015. It was to ensure that the construction sector can make a major contribution to the overall economic growth of the nation and be able to address challenges such as the need to increase productivity and quality across the entire value chain of the sector (CIDB, 2006). As a continuation of CIMP's accomplishments, the Construction Industry Transformation Program (CITP) was launched in 2015 to reinforce and mobilize the construction sector, as supported by the Eleventh Malaysian Plan. CITP is a five-year plan to develop a highly competitive construction sector from 2016 to 2020, which could make a significant contribution to Malaysia's target of becoming a high-income nation by 2020. It is expected that the outcomes of CITP will be able to change the Malaysian construction sector by achieving goals such as quality, safety, and professionalism to be ingrained in the sector culture; Malaysia's environmentally sustainable construction to be a model for the emerging world; productivity of the sector will be more than doubled, balanced by

higher wages; and Malaysian champions to lead the charge locally and globally (CIDB, 2015).

The above discussion has shown that the Malaysian construction sector has been serving as a catalyst to stimulate national socioeconomic growth. Therefore, the nation's economic development, on the whole, is strongly linked to the activities of the construction sector. In addition to the primary functions, the construction sector also has a vital role to play in assisting the Government's inspirations for achieving sustainable development by 2020 as indicated in CITP's second strategic trusts (CIDB, 2015). It is clearly seen that, in addition to economic benefits and social obligations, the Malaysian construction sector needs to respond urgently to the calls for sustainability and give focus to environmental issues. The sector therefore needs to promote an ethical business philosophy which requires a balance between economic growth, social expansion and environmental conservation in line with the principle of CSR.

In this context, the urgent need for CSR involvement in the construction sector can be seen from two perspectives. The first is derived from the potential future benefits of the initiative. In business practice, the push to incorporate CSR was projected on the basis of the idea that integrating economic, social and environmental issues into business operations could contribute to business sustainability (Porter & Kramer, 2011; Ljubojevic, Ljubojevic, & Maksimovic, 2012). Literature has provided comprehensive empirical data on the relationship between CSR and sustainable business. This relationship has proven to be an integral component of long-term business sustainability (Sanclemente-Télez, 2017; Pant & Piansoongnern, 2017; Giannoni, Alarcón, & Vera, 2018).

The second perspective is related to the nature of the sector itself. The construction sector is publicly regarded as an immoral industry due to the fact that a wide variety of unethical issues have compounded the essence of this business. Excessive exploitation of natural resources (Chang, Ries & Wang, 2011; Othman, Ghaly & Zainulabidin, 2014; Ramezany, 2017), rife with corruption (Hardoon & Heinrich, 2011; Ramezany, 2017), violation of human rights (CIOB, 2016; Amnesty International, 2016), lack of workplace safety and health (Enshassi, Kochendoerfer & Rizq, 2014; Yilmaz,

2014), and weak community ties (Duman, Giritli & McDermot, 2014) are among the most highlighted unethical problems that occur and are widespread in the sector. As such, the construction sector is seen as a sector that needs to be handled ethically in accordance with the principle of CSR. The CSR platform is therefore seen as a viable forum for innovative mitigation approaches to mitigate such adverse effects which, in turn, may improve the sector's reputations.

Engaging in socially responsible practices not only acted as a strategic competitive tool for sustainable business but also had a positive effect on corporate credibility (Gras-Gil, Manzano, & Fernández, 2016). As a result, the sector's reputation could be improved by removing the negative images and thus, offering more opportunities for future growth (Haupt & Harinarain, 2016). It has widely accepted that a business can boost its competitiveness by being socially responsible through improving brand image, increasing employee satisfaction, attracting skilled employees and ultimately gaining sustainable competitive advantages and enhancing corporate performance (Loosemore & Lim, 2017). For example, a study by Battaglia, Bianchi, Frey, and Iraldo (2010) reported that firms embracing CSR strategies are more accountable in areas such as:

- i. Environmental-related CSR that refers to steps taken to reduce the negative environmental impacts of a firm's service, such as measures for energy conservation, pollutant reduction, water-saving programs, and reduction of dangerous waste production;
- ii. Workplace CSR refers to the measures taken by an organisation to handle its workers, including recruiting, composition of the workforce, wages and working conditions, health and safety and human rights;
- iii. Community-related CSR that deals with a firm's relationship with communities impacted by its operations; and
- iv. Marketplace CSR refers to activities related to a firm's relationship with its supply chain including responsible advertising and marketing, resolving consumer

concerns, fair business practices and enforcing social and environmental standards on suppliers.

However, despite the momentum in embracing CSR, there has been little advancement in CSR adoption in the construction sector. It has led to the consensus that the CSR phenomenon within the construction sector is fairly new and has yet to be thoroughly understood how it has been implemented (Bevan & Yung, 2015; Duman, Giritli, & McDermott, 2016; Lim & Loosemore, 2017; Loosemore & Lim, 2017). Previous researches have shown that the lack of understanding about CSR concepts was the main reason for the absence of a formal CSR strategy in construction firms in various countries such as the UK (Larsen, Phua, & Kao, 2012; Duman, Giritli, & McDermott, 2016), Australia and New Zealand (Bevan & Yung, 2015; Loosemore & Lim, 2017), and Turkey (Duman, Giritli, & McDermott, 2016). As a result, while construction firms have incorporated some elements of CSR into their business activities, they do not refer to these practices as CSR. Furthermore, lack of a consistent legislative and institutional structure that could direct firms on how to make sense of CSR practice has also been identified as the key challenges facing construction firms such as in Sri Lanka (Rameezdeen, 2007), the UK (Lou, Lee, & Mathison, 2012), Ghana (Lichtenstein, Badu, Owusu-Manu, Edwards, & Holt, 2013), Australia (Bevan & Yung, 2015), Kenya (Mwangi & Otieno-Mwembe, 2015). Consequentially, while construction firms are aware of the CSR values, their CSR activities are scarce. It is worth noting that these studies have provided evidence that there is no major difference in the status of CSR adoption in the construction sector, either in developed or developing countries.

1.3 Problem Statement

The CSR phenomenon in the Malaysian construction sector has no different. Compared to other sectors, CSR adoption rates have been reported to be much lower although many types of initiatives are introduced (Abdullah, Mohandes, Hamid, & Singh, 2016). In line with the findings of most other countries, a lack of understanding of the CSR concept and a lack of appropriate guidance on how to adopt CSR have been described as key challenges facing Malaysian construction firms (Ismail, Jaafar & Saleh, 2015; Abdullah, Mohandes, Hamid & Singh, 2016; Gharip & Majid, 2017).

Although some articles on CSR related to the Malaysian construction sector have been published, most of them focused on the implementation status of CSR (Abdullah, Mohandes, Hamid, & Singh, 2016; Gharip & Majid, 2017) and mostly surveyed publicly listed companies (Yam, 2012; Ismail, Jaafar, & Saleh, 2015; Bamgbade, Kamaruddeen, & Nawi, 2017). Another article was a comparative study of CSR activities between global construction firms and Malaysian construction firms, which found that Malaysian construction firms lag behind global construction firms in almost every aspect of CSR (Kang, Ahmad, Goh, & Song, 2015).

Despite this, researchers have not yet established, to the best of the author's knowledge, exactly what factors lead to the successful adoption of CSR in the construction sector, either in Malaysia or elsewhere. Of course, all of these CSR studies are of great importance, but it may be equally important to establish a set of key factors that may have influenced the process of CSR adoption in the construction sector. Therefore, a greater void remains in the literature, thereby providing justification for this exploratory contribution. The contrasting findings highlighted the significant need for an initiative to provide the Malaysian construction firms with a helpful guide to initiate CSR within their organisations. In fact, Lin, Ho, and Shen (2017) challenged CSR researchers to keep updating the new issues in the construction context because of the low commitment to CSR research and the sector's unsatisfactory social results.

From this starting point, it is suggested that identifying the key areas that could lead to its successful adoption process is the initial step towards adopting CSR in the Malaysian construction sector. As a result of recognition, CSR will be effectively integrated in accordance with the firm's strategic goals and its internal characteristics. Successful CSR strategy can only be accomplished if CSR's holistic views are well understood. In this sense, incorporating CSR into the strategic goals of the firm will become more oriented, smoother and more effective if certain key factors related to its adoption processes are well defined and are aligned with strategic business planning.

It should be remembered that, because of its charitable and discretionary practices, adopting CSR into practice entails a considerable amount of investment that incur an additional expense to the firm and with unpredictable risks (Lin, Chang, & Dang,

2015; Hasan & Habib, 2017). Since being socially responsible entails costs, and the costs may be in short-term or continuing outflows, it is necessary to ensure that these activities will further produce benefits for the firms. Most notably, evidence has shown that if properly implemented, CSR's advantages appear to outweigh its costs (Marti, Rovira-Val & Drescher, 2015; Michel & Buler, 2016; Yuen & Lim, 2016). With this degree of investment and the expectation of operational efficiency, the awareness and understanding of the main areas that are central to the adoption process is important for the construction firms that wish to adopt CSR into practice.

The goal of this study is therefore to fill the gap in CSR and Construction Engineering Management (CEM) literature by identifying key areas required for the successful adoption of CSR in the Malaysian construction sector. In doing so, CSFs concept has been used to state which criteria should be followed for the successful adoption of CSR into practice. Indeed, CSFs are widely regarded as a tactical tool for enhancing performance in management practices. Rockart (1979) argued that the CSFs are key areas of management activity that should receive continuous and careful attention. In order to gain a deep understanding of CSR in the Malaysian construction sector and to ensure success in its adoption, it is important to clarify the key areas of activity that are crucial to the success of CSR adoption. As such, the CSFs approach was then adopted in order to recognize the key activities of successful adoption of CSR in the construction sector in Malaysia. As stated by Tavallaei, Hosseinalipour and Mohebifar (2015), the recognition of CSFs helps management staff to take action to ensure the successful adoption of the CSR into practice.

1.4 Research Question

Given the context of the study and the overview of research issues, it seems essential to recognize the key areas needed for the successful adoption of the CSR agenda in the construction sector in Malaysia. The primary research question that this study sought to resolve was therefore as follows:

How to ensure the successful adoption of the CSR agenda in the Malaysian construction sector?

This specific research question has been translated into the first research question as follows:

RQ₁: What are the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as defined by the Delphi expert panellists?

This question relates to identifying key factors that should be addressed if the CSR is to be successfully incorporated into practice. In this first stage, the study explored the factors that were critical to the successful adoption of CSR in the Malaysian construction sector through the lens of the CSFs concept.

Once the CSFs were formed, the study proceeded to the next stage. In this second stage, the study attempted to investigate the level of readiness of Malaysian construction firms to adopt CSR by conducting an organisational case study to a group of local construction firms. The level of readiness of the firms to adopt CSR was assessed against the identified and validated CSFs. This led to the second research question as follows:

RQ₂: How does the level of readiness of the Malaysian construction firms to adopt corporate social responsibility (CSR) as measured against the validated critical success factors (CSFs)?

This question addresses the path to the firms successfully adopting CSR. The readiness of the Malaysian construction firms was measured against their actual experience on each of the validated CSFs.

1.5 Research Objective

To guide the research efforts, the primary research objective developed for the current study was:

To investigate the measures by which a successful adoption of CSR agenda can be achieved in the Malaysian construction sector.

Specifically, to respond to the primary research objective, the following two research objectives were established:

RO₁: To identify the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as defined by the Delphi expert panellists.

RO₂: To assess the level of readiness of the Malaysian construction firms to adopt CSR as measured against the validated CSFs.

1.6 Research Scope

This study aimed to examine the main areas that could assist the Malaysian construction firms in successfully adopted CSR into practice. The CSFs concept was used to support the initiative in doing so. The study was conducted in two stages. In the first stage, the scope of the study was to identify and validate the CSFs for CSR adoption in the context of the Malaysian construction sector by adopting a Delphi study. Since this process used a Delphi technique for data enquiry, a purposive sampling technique was used to select the respondents. Nevertheless, they must fulfill the pre-described requirements.

In the second stage, the focus was to determine the level of readiness of Malaysian construction firms to adopt CSR into practice. It was assessed against the validated CSFs emerging from stage one. An organisational case study was conducted to the selected local construction firms. Yet again, a purposeful sampling method has been used to select the firms that plan to incorporate CSR. The in-depth, one-to-one interview protocol was used as a method of data enquiry. The respondents were selected among the firm's owners or directors because they have an intrinsic knowledge of the vision, strategic strategy and financial position of the firms.

Finally, the findings of this study were limited only to the construction SMEs as referred to firms with less than 75 full-time employees (Malaysia SME Corporation, 2016). It was believed that the larger construction firms with more than 75 full-time staff already apply CSR for reasons of accountability and transparency to their shareholders. Indeed, publicly listed firms of the Malaysian construction sector are mandatorily required to adopt CSR into practice and disclose their CSR activities in annual reports

(Mamun, Shaikh, & Easmin, 2017). Thus, the term of the construction firms used in this study is referred to as the construction SMEs.

1.7 Research Significance

With the globalisation of the economy, CSR is no longer a matter debated only in the developed Western nations where the idea originated. Debate on the concept of CSR has increased significantly in many developing nations and has become a popular subject of research across a wide range of scientific disciplines (Cavazotte & Chang, 2016; Ketschau, 2017; Jamali & Karam, 2018). Nevertheless, many areas of the field remain underdeveloped, and questions remain unanswered.

In business practice, the drive to incorporate CSR was projected on the basis of the idea that integrating and engaging economic, social, and environmental issues into business operations could contribute to business sustainability (Porter & Kramer, 2011; Ljubojevic, Ljubojevic & Maksimovic, 2012). Previous research has provided substantial empirical evidence on the relationship between CSR and sustainable business and has proven to be the key to long-term sustainability (Sanclemente-Téllez, 2017; Pant & Piansoongnern, 2017; Giannoni, Alarcón, & Vera, 2018). At the other hand, it is a well-known fact that the construction sector has been blamed for unethical issues that still exist and are common in the sector (Bevan & Yung 2015; Duman, Giritli & McDermott 2016; Lin, Ho, & Shen, 2018). This has called on construction firms to be more transparent and responsible in their corporate activities, consistent with the CSR concept. But then, how to incorporate CSR into a practice? In particular, which elements are the most important to these efforts and, in effect, values for its adoption? Although CSR is an attractive idea, what factors lead to its successful adoption remains an area of conjecture. These are the issues that this study seeks to address.

It is argued here that in order to enhance adoption success of CSR, it is necessary to recognize the CSFs that underlie the effort. Understanding the main factors involved in adoption of CSR will make the process more oriented and constructive strategies can be taken by management staff. Rockart (1979) pointed that the CSFs “[...] are, for any businesses, the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation [...] the few key areas

where “things must go” for the business to flourish [...] areas of activity that should receive constant and careful attention from management [...] the areas in which good performance is necessary to ensure attainment of [organisational] goals”. In the CEM field, for example, Yaakob, Wan Ali, and Radzuan (2016) used the CSFs to identify the key areas of building information modelling implementation within the Malaysian construction sector and have achieved successful implementation through monitoring CSFs.

Although the construction sector was such an important contributor to the growth of the Malaysian economy and its obvious influence brought about by its activities, their CSR activity remained obscure (Abdullah, Mohandes, Hamid, & Singh, 2016). While there is a significant amount of literature on CSR in the construction sector, to the best of the author knowledge, very few, if any, studies performed with respect to CSFs. In support of this view, an analysis of a systematic selection of 68 papers published between 2000 and 2017 in various mainstream journals, Xia, Olanipekun, Chen, Xie, and Liu (2018) revealed that there are only four research trends underlying the present CSR work in the CEM field. The study concluded that while CSR research in the construction sector has recently increased, its coverage is isolated, less extensive, and does not encompass the sector’s multifaceted nature. Hence, it is evident that little attention has been paid to the topic CSFs in CSR research in the construction context. In fact, there has also been limited interest in the topic of CSFs in CSR research as a whole (Baumann-Pauly, Wickert, Spence, & Scherer, 2013; Fuzi, Habidin, Hibadullah, Zamri & Desa, 2015).

It could be saved to assume that there is a lack of coherent knowledge which could assist the construction firms to effectively adopt CSR into practice. It is therefore imperative to examine how construction firms can best participate in the process of adopting the CSR. The goal of this study was to identify key areas needed for the successful adoption of CSR in Malaysian construction firms through the lens of CSFs concept. This research thus adds to established knowledge of CSR and offers fresh perspectives by discussing a topic that has been less discussed in the literature. As a corollary, the void found in the literature will be partly filled with the outcomes of this study.

On a methodological issue, this study adopted a Delphi technique as a strategy of inquiries. It was responded to the calls for the subjective approaches that are more robust and rigorous in addressing issues in the construction sector due to the transient nature of the sector (Tran, Lester, & Sobin, 2014).

1.8 Research Contribution

From a theoretical perspective, this study contributes to the literature in several ways. This study contributes to the field by presenting one of the studies of its kind that focused on CSFs for CSR adoption in the construction sector in Malaysia. This study explored the factors crucial to the successful adoption of CSR in the Malaysian construction sector through the prism of the CSFs concept. It is relevant to the current literature as none of the prior research discussed CSFs for CSR adoption in the construction sector in Malaysia. This study offers new perspectives by discussing a topic that could enrich existing literature on CSR in the context of construction, which is less covered in the literature. In a broader sense, the study showed that some of the CSFs found in other industries are equally important in the construction sector. In addition, the study stressed that a smaller number of CSFs was preferred over a greater number for ease of management and monitoring. From the data collected, the CSFs for CSR adoption in the Malaysian construction sector, and how to incorporate those CSFs were proposed.

On the practical side, this study demonstrated the advantages of CSR in the construction sector which addressed an ethical philosophy of business. As a result, the negative images of the sector could be eliminated subsequently. The findings of this study will deepen the understanding of CSR and its adoption process among the Malaysian construction firms. This deeper understanding could lead to a better CSR adoption process, which could actually have a positive effect on the achievement of the expected results, and could also improve the reputation of the entire construction sector in Malaysia. Finally, the findings may provide guidance for Malaysian construction firms to consider the key factors that led to the successful adoption of CSR. Through considering CSFs, firms are driven and guided to a greater understanding of how to achieve optimum performance from the CSR initiative and reduce the risk of failure. In addition, policy makers in the construction sector in Malaysia should recognize the results

of this study while promoting the CSR agenda or development programs that pursue the way forward for the construction sector. CSR is a modern approach to business ethical behavior that can be used as a strategic competitive tool for construction firms. By embracing CSR, it effectively results in enhancing financial performance through strengthening market positioning and being able to gain a competitive advantage that is sustainable in the long term.

1.9 Definition of Terms

To provide clarity throughout the study, the definitions of terms are listed below. It was especially important for words with more than one meaning, or which were ambiguous in their application to the content mentioned.

- i. Construction firm: All business entities involved in any aspect of the construction process within the Architecture, Engineering, and Construction (AEC) sectors including general contracting firms, specialist contractors, architectural and engineering design partnerships, cost consultancy practices, and development companies (Betts & Ofori, 1999).
- ii. Construction sector: Those comprising all new-build, refurbishment, repair, and maintenance activities, in both the public and private sectors (building, property development, infrastructure, civil engineering, inter alia), but excluding the materials supply industries (Thompson, Cox, & Anderson, 1998).
- iii. Corporate social responsibility: The commitment by corporations and businesses towards achieving sustainability in the social, economic and environmental conditions in furtherance to the pursuit of profitability (Companies Commission of Malaysia, 2017).
- iv. Critical success factors: The limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation (Rockart, 1979).

- v. Delphi study: A systematic and interactive research technique for obtaining the judgement of a panel of independent experts on a specific topic (Hallowell & Gambatese, 2010).
- vi. Small and medium-sized enterprise (SME): An enterprise with sales turnover not exceeding RM20 million or full-time employees not exceeding 75 (SME Corporation Malaysia, 2016).

1.10 Research Outline

The thesis presentation fits the general framework proposed by Saunders, Lewis, and Thornhill (2014) for the writing of theses. The thesis is divided into five parts including the present one. Chapter 1 provides the overall introduction to the research subject, providing a context narrative leading to the research gap, aim and related research questions, along with the justification for the study and the key term definitions.

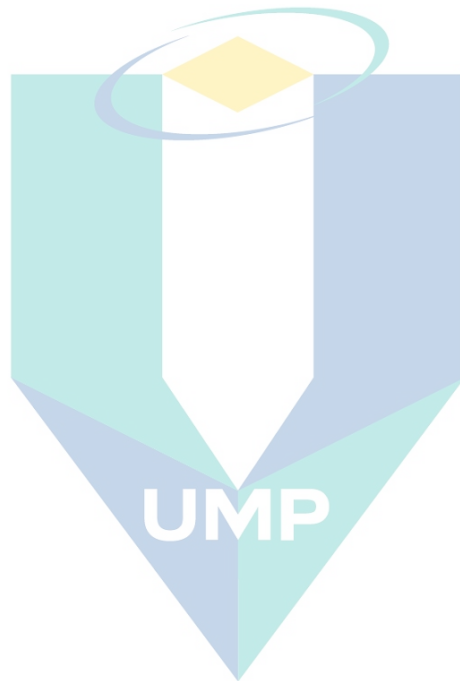
Chapter 2 provides a comprehensive frame of reference in which applicable literature reviews on CSFs and CSR are collected in order to integrate fragmented work in the area. It then briefly describes the potential CSFs found in literature for designing the initial measurement constructs that suit the research goals.

Chapter 3 includes descriptions of the overall design and methods used to perform the study. This provides the reasoning for the research approach adopted for the present study. Discussions are also provided on the data analysis methods relating to the Delphi ranking-type methodology and a qualitative case study.

Chapter 4 focuses on the analysis, overall findings and discussions of the findings associated with each phase of the data inquiry. Each of the findings is examined, with conclusions as to whether the findings are compatible with the current literature or deviate from it, or the findings tend to be new contributions. The discussion focuses on the findings of CSFs for adoption of CSR in Malaysia's construction sector that could answer the research questions identified for the study.

Chapter 5 represents the research conclusions along as well as the overall findings within the framework of the research objectives underlying the study. It presents the

research study's general synthesis to address the issues raised in the problem statement and based on the research objectives. It also outlines the contributions of the current study, limitations, and recommendations for future research.



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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The previous Chapter 1 discussed the background and justifications to the research efforts. The current Chapter 2 reviews and synthesizes the literature covering the critical success factors (often referred to CSFs) and the immediate discipline of corporate social responsibility (often referred to CSR) to look for possible CSFs for CSR adoption in the Malaysian construction sector in Malaysia. This chapter begins with a discussion on the concept of CSFs, followed by a brief explanation of the philosophies of CSR. Then, this chapter discusses on the Theory of Social Capital as the grounded theory underpinned this study. It further discusses the literature concerning CSR in the construction sector, and CSFs for CSR practice. The development of initial measurement constructs of CSFs for CSR adoption in the Malaysian construction sector is then discussed, which will provide useful details about the subject matter and identify possible lines of further inquiry for this study. The next section describes the knowledge gap which justifies the need for the study. The last section draws the chapter summary.

2.2 Critical Success Factors (CSFs)

The complexity of CSR practice means that success in its adoption requires a sound methodological foundation and a validated scientific theory. In this regard, the concept of CSFs seems to have a strong basis for stating which criteria should be followed for such efforts. CSFs are seen as the term for an element that is necessary for an organisation to achieve its mission, in this context, the adoption of CSR. The concept of CSFs is therefore considered as the foundation for this study. It aims to identify key areas that are important for the successful adoption of CSR into practice in construction sector.

The CSFs is a well-known managerial methodology that aims at developing planning instruments that are essential for an organisation finding the right strategy and

in turn, accomplish its mission (Tu & Yuan, 2014). The concept of “success factors” was initiated by D. Ronald Daniel of McKinsey and Company in 1961 when he discussed the problem of inadequate management information for setting objectives, shaping strategies, making decisions, and measuring results against goals (Daniel, 1961). Daniel (1961) suggested that organisational planning information should focus on the success factors ranging from three to six factors to ensure the success of key jobs that the firm needs to perform. Based on Daniel’s works, in 1979, John F. Rockart of MIT Sloan School of Management refined it into “critical success factors” (CSFs), and firstly used in the information technology industry (Rockart, 1979).

Rockart (1979) pointed that the CSFs “[...] are, for any businesses, the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation [...] the few key areas where “things must go” for the business to flourish [...] areas of activity that should receive constant and careful attention from management [...] the areas in which good performance is necessary to ensure attainment of [organisational] goals”. Since then, CSFs has grown popular and applied to many sectors setting including construction sector. Therefore, knowing the CSFs for CSR adoption in advance will help the Malaysian construction firms to more focus and efficiently incorporate CSR into their strategic planning. As a result, the risk of failure could be minimized.

According to Boynton and Zmud (1984), CSFs are representing the managerial and enterprise area of an organisation that must be given special and continual attention to bring about high performance. CSFs include issues vital to an organisation’s current operating activities and to its future success. Thus, CSFs are seen as the term for an element that is necessary for an organisation to achieve its mission. It is a critical factor or activity required for ensuring the success of an organisation. Originally, the concept of CSFs was implemented as a management approach that helps chief executives to condense large amounts of business information into a set of factors that are critical to the business success, enabling successful and timely decision taking. Rockart (1979) defines CSFs as “the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation”. This definition is

generic and therefore can be applied for the current study without requiring much modification.

Rockart (1979) contended that the major advantages of using the CSF approach can be seen from the following results:

- i. The method helps the manager to determine factors that should be focused on by management.
- ii. The process forces the manager to develop good measures for those factors and to seek reports on each of the measures.
- iii. The identification of CSFs allows a clear definition of the amount of information that must be collected by the organisation and limits the costly collection of more data than necessary.
- iv. The identification of CSFs moves an organisation away from the trap of building its reporting and information system primarily around data that are “easy to collect.”
- v. The process acknowledges that some factors are temporal and that CSFs are manager specific, thus they must be viewed as an inevitable and productive part of systems development.
- vi. The CSF concept itself is useful to assist the management process especially for an area that can be improved using CSFs such as the planning process.

Rockart's concept of CSFs is specifically motivated by the issue of an optimal balance between environmental conditions and business characteristics which is the core of the business strategy. The surrounding environment is believed to have certain basic requirements and constraints, challenges and opportunities for firms to adapt their strategies, expertise and resources in order to achieve success. According to Rockart, no firm can afford to set up a plan if fails to pay proper attention to the main factors underpinning the success of the industry. This explains the use of the concept of CSFs as

the foundation of the current study in order to identify key areas that are necessary for successful adoption of CSR in the Malaysian construction sector.

The CSFs approach has long been recognised as a method used to identify the key activities in the CEM field. For example, Enshassi, Falouji, AlKilani, and Sundermeieri (2016) evaluated CSFs for knowledge management implementation in the construction sector; Yaakob, Wan Ali, and Radzuan (2016) explored CSFs for building information modelling; Liu, Skibniewski, and Wang (2016) investigated CSFs for construction innovation; Tsigas, Emes, and Smith (2016) examined CSFs for the construction sector performance; Hanafi and Mohd Nawi (2016) explored CSFs for construction firms' performance; and Thote, Shin, and Kanase (2017) evaluated CSFs for construction projects. All these studies have achieved successful implementation through monitoring the identified CSFs.

In the context of the current study, CSFs allow for a focused monitoring of the factors that are critical to the successful adoption of the CSR agenda in Malaysian construction firms, from which appropriate action can be taken to incorporate such practices in the organisations. However, literature reviews have shown that no studies on CSFs for CSR have been conducted in the Malaysian construction sector to date. Consistent with other studies, an alternative approach is to compile a list of potential success factors for CSR that existed in the literature, regardless of the sector, and to further examine their criticality in the context of the study. This is considered to be a satisfactory approach that helps to distill key factors into a manageable and appropriate list of CSFs for further critical refinement.

2.3 Corporate Social Responsibility (CSR)

Since the post-World War II social movements in the 1950s and the shifts in social consciousness in the 1960s, the concept of CSR has drawn considerable awareness from business and public communities (Carroll, 2015). CSR continues to expand today and has become among the hottest issues discussed in management areas (Skarmas & Leonidou, 2013; O'Riordan & Fairbrass, 2014). More than ever, many businesses have been involved in the CSR agenda to support their strategic goals, in addition to making a substantial contribution to society (Singh, Sethuraman, & Lam, 2017).

CSR's concept is not new. It can be traced back as far as civilizations are concerned. For example, ancient Roman senators grumbled about the failure of the business to contribute sufficient taxes to support the day's military campaign (Asongu, 2007). Much earlier, in ancient Mesopotamia, around 1700 BC, King Hammurabi implemented a code in which strict punishments were enforced on builders, innkeepers or farmers whose negligence caused death or harm to society (BRASS Centre, 2007). These examples highlighted the need for businesses to behave as a license-to-operate in a socially responsible way (Książak, 2016). The modern era of CSR, however, was sparked by the publication in 1953 by Howard Bowen of his landmark book, *Social Responsibilities of Businessmen*, where the author set the stage for managers to think about their role in society (Carroll, 2015). Since then, CSR has shifted from practice to academics, making it a theoretical subject (Gond & Moon, 2011).

Throughout the 1960s, CSR literature increased dramatically. Initially, the emphasis appeared to be on creating real meanings of the term and its importance to business and society (Carroll, 2008). During the 1960s and 1970s, CSR conceptual frameworks were developed around ethical and social welfare, with few researches linking CSR to strategic management (Acquier, Gond, & Pasquero, 2011). The definition of CSR had evolved beyond moral and environmental regulation by the end of the 1990s to demonstrate the need for transparency (Amin-Chaudhry, 2016). As a result, a variety of different viewpoints are addressed by the current CSR literature. The term CSR is also often used to refer to various names that describe "ethical business" such as corporate sustainability, corporate citizenship, triple bottom line, socially responsible behavior, and so on (Perinni, 2006). Both stress the relationship between business and society, regardless of one point of view or another (Carroll, 2015).

However, the concept of CSR still lacks a widely agreed definition when investigating CSR from a wide range of perspectives (Buhăniță, 2015). CSR is seen as a concept with many definitions and practices, and the way it has been interpreted and applied differs widely between the organisation and the nation or even the sector. To avoid any ambiguity in guiding the current study, CSR is defined here as "the commitment by corporations and businesses towards achieving sustainability in the

social, economic and environmental conditions in furtherance to the pursuit of profitability” (Companies Commission of Malaysia, 2017).

Previous researches have shown that the positive results from CSR activities not only occurred within the organisation, but have also spread to society. Książak (2016), for example, systematically reviewed a selection of CSR literature and identified its benefits to the business and society as outlined in Table 2.1.

Table 2.1 Benefits of CSR to the Firm and Society

Company	Society
Licence to operate	Technology and infrastructure
Employee motivation	Economic development
Differentiation from other brands	Education
Cost reduction	Sense of security
Good relations with stakeholders	Increased health
Customer loyalty	Natural environment protection
Desire to ‘do good’	Better employment opportunities
Risk mitigation	Social activation
Avoiding legal actions	Higher standard of living
Building a brand image	Improved quality
Making profits	
Avoiding government regulations	
Attracting investors	
Improved quality	

Source: Abstracted from Książak (2016)

Given the significance to the businesses, CSR has become the global issues that have recently been focused. Global organisations such as the United Nations Global Compact, and the Global Reporting Initiative, have supported the development of CSR agendas. For example, the United Nations Global Compact (2017) introduced ten principles that are relevant to both developed and developing countries as a foundation for applying CSR in an organisation. These principles were derived from the Universal Declaration of Human Rights, the International Labour Organisation’s Declaration on

Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention against Corruption. As shown in Table 2.2, businesses are required to emphasizing ethical issues categorised in four dimensions including human rights, labour, environment, and anti-corruption.

Table 2.2 Ten Principles of CSR

Principle	Description	Dimension
1	Business should support and respect the protection of internationally proclaimed human rights.	Human Rights
2	Make sure that businesses are not complicit in human rights abuses.	Human Rights
3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	Labour
4	The elimination of all forms of forced and compulsory labour.	Labour
5	The effective abolition of child labour.	Labour
6	The elimination of discrimination in respect of employment and occupation.	Labour
7	Businesses should support a precautionary approach to environmental challenges.	Environment
8	Undertake initiatives to promote greater environmental responsibility.	Environment
9	Encourage the development and diffusion of environmentally friendly technologies.	Environment
10	Businesses should work against corruption in all its forms, including extortion and bribery.	Anti-Corruption

Source: United Nations Global Compact (2017)

Meanwhile, Constructing Excellence (2017) considered seven practices of CSR that valued for the construction firms. As shown in Table 2.3, the seven core values were transparency, fairness, inclusiveness, responsiveness, integrity, diversity, and

accountability. In the meantime, Constructing Excellence (2017) considered seven CSR practices that were valued for construction firms. The seven core values were transparency, fairness, inclusiveness, responsiveness, integrity, diversity, and accountability, as seen in Table 2.3.

Table 2.3 Core Values of CSR in the Construction Sector

No.	Core Value	Description
1	Transparency	Being open to all stakeholders about the interests and processes of an organisation.
2	Fairness	Treating all stakeholders in a reasonable and equal way.
3	Inclusiveness	Involving all groups who are affected by the company and its activities in relevant decision-making processes.
4	Responsiveness	Responding to any concerns of stakeholders in a swift and effective manner.
5	Integrity	Being honest and sticking to agreed terms and principles.
6	Diversity	Valuing and promoting diversity in terms of gender, culture, and race. Willing to apply different perspectives and new approaches in day-to-day management.
7	Accountability	Being completely responsible for what an organisation does and being able to trace back its activities and related impacts.

Source: Constructing Excellence (2017)

According to Constructing Excellence (2017), construction firms that focus on these seven core values of socially responsible practice are expected to gain value added in the following areas:

- i. Secure a strategic advantage such as securing the ‘goodwill’ of a local community, as a result of good stakeholder dialogue.
- ii. Improve reputation by developing a brand amongst customers and other stakeholders for ‘doing good business’ in a responsible manner.

- iii. Reduce costs as a result of more productivity due to higher staff morale.
- iv. Minimising and managing business risks whereby a firm or project is managed in a socially responsible manner which is an effective way of minimising risks related to the corporate image or project programme.

2.4 Philosophies of CSR

There is a significant body of literature providing different articles describing the scope of CSR in the social context to provide a clearer understanding of CSR. As an attempt to portray the relationship between business and society, several different CSR philosophies have been put forward. However, the Carroll Pyramid of CSR and the Triple Bottom Line (TBL) were the most well-known and influential models for understanding the concepts of CSR (Baden, 2016; Zender, 2017).

The Carroll Pyramid of CSR, as shown in Figure 2.1, is a simple pyramid structure that describes how and why organizations should respond to their social needs on the basis of the four-part definition of CSR (Carroll, 2016).

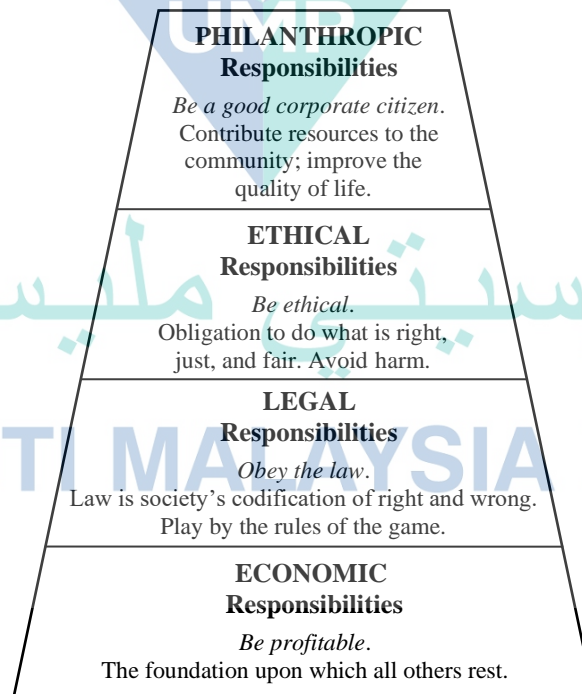


Figure 2.1 The Carroll's Pyramid of CSR

Source: Carroll (1991)

The model illustrates that economic responsibilities are imposed at the bottom of the pyramid, followed by legal responsibilities, ethical responsibilities and philanthropic responsibilities at the top. Philanthropic responsibilities are defined as "purely voluntary" by contributing resources to the community in order to enhance the quality of life by portraying a good corporate citizen. Ethical responsibilities are an obligation to do what is right and to prevent harm. Legal responsibilities, on the other hand, are in adherence to the law since it is the codification of right and wrong by society. Finally, economic responsibilities enable businesses to be profitable and to form the basis for other components (Carroll, 1991).

It is clear that the top priority of a business is the creation of wealth and profits. However, these goals must be accomplished by complying with the legal requirements and, at the same time, the business must respond to its stakeholders' ethical and philanthropic concerns. The model was regarded by Baden (2016) as one of the most prominent CSR models that embodied and helped to reinforce the business-centered CSR concept.

Meanwhile, the concept of the Triple Bottom Line (TBL) was initially introduced by John Elkington, a business consultant, as a new term to promote the sustainability agenda in 1994 (Flores, Gavronski, Nardi, & Haag, 2017). The concept of TBL refers to environmental, social value and economic benefit as an investment which relates to the concept of sustainable development. In order to achieve sustainable development, the aspects of environmental, social and economic of TBL should be given equal weight (Hussain, Rigoni, & Orij, 2018). In other words, the concept focused more on measuring the performance of a firm's CSR by taking into account the environmental, social and economic dimensions that may accrue alongside the firm's financial bottom line (Coşkun Arslan & Kisacik, 2017). The concept argued that the financial benefits of a firm can be achieved through the adoption of sustainable development strategies that will have a positive impact on the economy, social, and the environment (Hammer & Pivo, 2016). Thus, only a firm that produces a TBL is considered to have taken into account the full cost of doing business.

Within this concept, Elkington (1997) argued that three distinct bottom lines should be actively engaged in firms. The first is the traditional corporate profit measure, which refers to the “profit and loss” account bottom line. The second is the bottom line of a firm’s “people” account, which relates to a measure of how the firm has been socially responsible throughout its operations in some form. The third is the bottom line of the “planet” account of the firm, which is a measure of how it is environmentally responsible. The concept of the TBL is also known in the literature with the notion of the 3P that refers to people, profit, and the planet, since its aim is to treat the actions of business entities as financial results with regard to the environment and the social sphere (Žak, 2015). Zender (2017) viewed TBL as a concept of sustainability that acknowledges the commitment of an organization to economic development, social justice and environmental stewardship. Organizations can serve the needs of the present by striking an appropriate balance between these interests, without compromising the ability of future generations to meet their own needs. From this view of point, Zender (2017) illustrates the interception of economic, social and environment that create sustainability as shown in Figure 2.2.

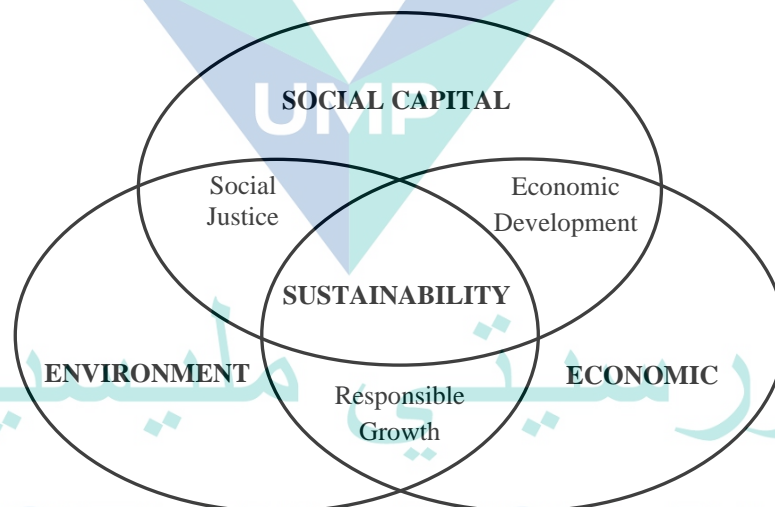


Figure 2.2 Interception of TBL

Source: Zender (2017)

Based on the TBL concept, the United Nations Industrial Development Organisation (UNIDO, 2017) defined CSR as “a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders”. Within this definition, CSR is generally agreed as

being the way through which a company achieves a balance of economic, environmental and social imperatives, while at the same time addressing the expectations of shareholders and stakeholders (UNIDO, 2017). Clearly, the idea behind the TBL concept is that the overall success of a firm should be measured not only by the traditional financial bottom line, but also its social/ethical and environmental performance (Alhaddi, 2014).

It is clear that both frameworks underline the importance of an organisation to focus on social and environmental obligations in addition to its financial goals. Consequently, the existing economic benefit-based performance evaluation frameworks and financial indicators need to be redefined to include additional non-financial indicators, such as social contributions and environmental protection. As a result, current performance assessment systems based on economic benefits and financial indicators need to be redefined to include additional non-financial indicators such as social contributions and environmental protection (Liang, Zhao, Wang & Li, 2018).

2.5 Theory of Social Capital as the Grounded Theory

It should be acknowledged that CSR is not a theory on its own. The concept of CSR has been viewed from a variety of perspectives. Various theories have been used to explain the behaviour of economic units that emerged from CSR activities (Gallego-Álvarez, Prado-Lorenzo, & García-Sánchez, 2011). However, the theory of social capital is appropriate for SMEs (Russo & Perrini, 2010).

The theory of social capital focuses on the value of the relationship between individuals in organisations or between organisations or within other organisations (Kamaluddin, Hasan, Arshad, and Abu Samah, 2016). Putnam (2000) referred to social capital as the relations between individuals, social networks and the norms or reciprocity and trustworthiness that emerge from them. Social capital is considered as an intangible resource of a firm that relates to organisational performance in a number of ways in term of building trust, reputation, legitimacy, consensus and cooperation between firms that are needed to carry out business activities within the entire supply chain.

Sen and Cowley (2013) considered two theoretical models which underpin the theory of social capital. The first is to focus on the role of various forms of capital in reproducing unequal power relations which include three forms of social capital, namely:

- i. Obligations and expectations which depend on the social environment being trustworthy;
- ii. The capacity to distribute information across the social system to provide a basis for action; and
- iii. Presence of standards.

Second, the theory of social capital is seen as an attribute to the community. It believes social capital is the result of the group's development of networks, norms, and trust. It encourages all group members to pursue shared goals (Sen & Cowley, 2013).

Perrini (2006) suggested that the theory of social capital is more representative of the attributes of SMEs in the context of the CSR than other theories, which better describes the situation for large corporations. According to Sen and Cowley (2013), CSR in the SMEs is more aligned with the fundamentals of the theory of social capital because of the unique resources and survival challenges they face, which are not so pronounced in large firms. The theory of social capital emphasizes the importance of social networks created by SMEs in their day-to-day operations, and these unique networks could be used to gain competitive advantages (Perrini & Minoja, 2008). In other words, economic prosperity and sustainable development could be achieved if the community increases its level of social participation and, in turn, generates positive attitudes towards firms as a result of CSR activities (Saeed & Arshad, 2012).

The above discussions provided insights into some details on how CSR enhances firm values. It is clear that both concepts and theories provide a strategic anchor by which firms can use CSR as a strategic competitive tool. However, despite the existence of any concepts or theories, successful CSR practice can only be achieved if its holistic views are well understood. As an organisation's strategic competitive tool, integrating CSR into the firm's strategic objectives will only make sense if several key factors related to its

adoption efforts are well understood and aligned with organisational strategic planning. With this understanding, CSR is in a position to adopt successfully in line with the firm strategic objectives and internal characteristics. Since this study attempted to investigate the key factors for the adoption of CSR in the Malaysian construction sector, the theory of social capital was considered the underpinned theory.

2.6 Previous Studies on CSR in the Construction Sector

One of the earlier empirical studies on CSR in the construction sector was a study of Jones, Comfort, and Hillier (2006) within the UK construction sector. The study explored how CSR issues were addressed and reported by leading UK construction firms. Empirical information was drawn from the CSR reports and information posted on the World Wide Web by construction firms on six sets of CSR issues, including environmental, health and safety, human resources, supply chain management, customers and communities, and governance and ethics. The study found that most major UK construction firms have their own specific approach to CSR and variations in the nature and extent of the reporting process. In addition, while construction firms have reported their recognition of the importance of CSR and their commitment to integrate it within their businesses, they make relatively limited use of key performance indicators and less used benchmarking exercises.

Ever since the study of Jones, Comfort, and Hillier (2006) a decade ago, the status of CSR implementation in the construction sector still makes no difference, as reported in the following studies.

- i. A single case study of Larsen, Phua, and Kao (2012) in the UK construction sector reported that the construction firms had engaged in a number of discretionary activities that could be described as CSR practices, but none of them referred such activities to CSR or something to be promoted by CSR. The findings concluded that, although UK construction firms have already engaged in CSR practices, they do not really understand what the CSR is all about and have implemented the 'hidden' CSR.

- ii. A cross-cultural study by Duman, Giritli and Mcdermott (2014) between UK and Turkish construction firms concluded that both construction firms in both countries did not incorporate CSR into their business approaches, although they agreed on the link between CSR and business success.
- iii. A study by Bevan and Yung (2015) in Australian construction SMEs reported that none of the construction SMEs have a formal CSR policy in place. Although they incorporate some aspects of CSR (an ethical and economic aspect of CSR) into their business activities they do not refer to the practices as CSR.
- iv. A study by Mwangi and Otieno-Mwembe (2015) in Kenyan construction sector reported that only 31 or 67% of the surveyed firms had formally or informally practiced the concept, while the other 15 or 33% reported that they had never, in any way, embraced CSR in their business activities. The lack of resources to carry out CSR activities, and lack of a clear legislative and institutional framework to guide CSR implementation were identified as the challenges to CSR implementation.
- v. A study in construction and engineering firms in Australia and New Zealand by Lim and Loosemore (2017) revealed that CSR initiatives were very internally focused in the sense that firms focused primarily on occupational health and safety, ethical business practices and environmental management, and ignored the community-business mutuality of interests. They concluded that the CSR practice in construction firms in Australia and New Zealand are largely informal, unsophisticated and compliance driven and in its early stage of development.
- vi. A study of large-sized construction firms in Taiwan by Huang, Lu, Lin, and Wu (2017) revealed that the Taiwanese construction firms interested in CSR implementation or CSR reporting issuance driven by business transformation or investment attraction and concluded that most firms have not fully implemented CSR.
- vii. A study in Chinese construction sector by Zhao, Zhao, Zuo and Zillante (2016) reported that only the quality and safety of construction activities, health and

safety at work, and the relationship between suppliers and partners were issues of CSR that received a higher emphasis from construction firms. The study concluded that most Chinese construction firms have not fully implemented CSR.

- viii. A comparative study between Singapore, Australia and New Zealand construction sector by Loosemore, Lim, Ling and Zeng (2018) suggested that all three countries have applied a compliance-based approach to CSR and a common focus only on environmental and safety issues related to construction activities. The study concluded that the social dimension of CSR had not yet matured and that differences in CSR practices between countries were due to different regulatory imperatives, institutional factors, labor structures and demographic and cultural factors.
- ix. A recent study in the Czech Republic by Kučerová, Dania, Skýpalová and Blašková (2018) revealed a relatively high level of awareness of the CSR concept among the construction firms but a very low level of CSR activity within the economic, social and environmental pillars.

Previous studies have also demonstrated a number of obstacles and drivers to the implementation of CSR by construction firms. A study in the Northern Ireland construction sector, Spillane, Rafferty, Oyedele, von Meding, Bruen and McGrath (2013) reported that the effects of the recession, implementation, reporting and competitiveness of the sector were factors that had a profound impact on CSR practices in construction firms. On the other hand, a study in the Nigerian construction sector by Ekung, Ujene and Ebong (2014) revealed that the key drivers of CSR implementation were the need to mitigate risk to community stakeholders, the government push, the competitive advantage, and divert attention from key stakeholders.

The motivations of construction firms to implement CSR are also being studied. A study on the motivations of stakeholders across public procurement to engage in CSR in the procurement and delivery of construction projects in the UK construction sector by Watts, Dainty, and Fernie (2015) suggested that contractors were motivated to participate in CSR for two main reasons include to improve and give back to society, and to assist in winning work. Meanwhile, the motivation for clients is to maximize the benefits of

public sector spending for community members, and participation in CSR leads to a competitive advantage for contractors.

A study in the context of mega-construction projects in the Kingdom of Saudi Arabia construction sector by Alotaibi, Edum-Fotwe and Price (2019) showed that the top seven barriers were additional costs, lack of awareness and knowledge, lack of guidance and a coherent strategy, lack of communication between stakeholders, lack of law enforcement, lack of training and unclear project requirements. In the Sri Lankan construction sector, a study by Rameezdeen (2007) found that lack of awareness and misconceptions about CSR was a major constraint that restricted the adoption of CSR among the construction firms.

Meanwhile, a recent study of Zhang, Oo, and Lim (2019) in the Chinese construction sector reported that the drivers to CSR implementation were categorized into three sub-themes namely policy pressure, market pressure, and innovation and technology development. The key motivations include financial benefits, branding, reputation and image, relationship building, organisational culture, and strategic direction of business. Finally, the barriers were grouped into five perspectives, namely government policy, construction enterprise, the attributes of CSR, the stakeholder perspective, and the sector itself.

The influence of CSR disclosure on the financial performance of publicly-listed construction firms listed on the Australian Stock Exchange has been discussed by Siew, Balatbat and Carmichael (2013). The study suggested that the majority of firms were found to have low reporting rates and did not reach the level of expectation for disclosure set by institutional investors. In addition, they reported that Australian construction firms that provide non-financial reports outperform the non-financial output group, although the relationship did not appear to have a clear positive relationship.

The mediating role of corporate image in the relationship between CSR and organisational performance has also been studied in Taiwan's construction sector by Huang and Lien (2012) and confirmed that CSR was positively associated with corporate image and organisational performance. In addition, the study concluded that corporate image could serve as a mediator between CSR and organisational performance. This

means that, by spending more in its CSR activities, construction companies are likely to boost their corporate image and result in better performance.

Within the Malaysian construction sector, several CSR studies have been reported in the following studies.

- i. A comparative analysis of CSR activities between global construction firms and Malaysian construction firms has been conducted by Kang, Ahmad, Goh and Song (2015). The results showed that Malaysian construction firms lag behind global construction firms in almost all aspects of CSR, including leadership, visions and values, workforce activities, stakeholder participation, community activities, and environmental activities. The study also found that the mindset of top management, lack of a clear line of responsibilities, financial constraints, and external issues such as government initiatives and motivations, and trends in the sector in relation to CSR, were the key obstacles to the adoption of sound CSR activities.
- ii. The current level of CSR adoption among construction firms in Malaysia was investigated by Abdullah, Mohandes, Hamid, and Singh (2016) and revealed that 66.7% of respondents indicated that they had adopted CSR concepts informally. In addition, the study also found that no support from top management was perceived to be a major barrier to the adoption of CSR.
- iii. The level of awareness, opportunities and obstacles of CSR in the Malaysian construction sector has been studied by Gharip and Majid (2017) and revealed that Malaysian construction firms are relatively aware of CSR. In addition, the identified opportunities for adopting CSR included strengthening partnerships with vendors, stakeholders and the community, enhancing corporate reputation, enhancing employee engagement, increasing efficiency, community participation and development, ethical motivation and the acquisition of business benefits. With respect to barriers to the adoption of CSR, the study found that high costs, non-immediate business benefits, lack of funds, lack of specific legislation on CSR, lack of institutions or client assistance, lack of knowledge, lack of company

interests, lack of corporate skills, little impact to business, lack of employee motivation and no expected benefits from CSR.

- iv. The adoption of CSR by the top ten real estate developers in Malaysia was explored by Yam (2012) and revealed that most property developers have their own approach to CSR, although there have been differences in their CSR programs and reporting procedures. The study concluded that Malaysian property developers had not completely applied CSR.
- v. Bamgbade, Kamaruddeen, and Nawari (2017) hypothesized that market orientation culture was a significant mediator through which government support could have a positive effect on the firm's social sustainability performance. The study showed that market orientation culture partly mediates social sustainability performance, suggesting that construction firms need a business culture to enhance their social sustainability through government support. They concluded that construction firms need management initiatives to comply with government regulations and exploit them to promote market-oriented cultures in order to enhance their social sustainability performance.

The above studies have provided some evidence of the view that construction firms are still separating CSR from their strategic decisions, even though CSR is seen as a tool to enhance the competitive advantage resulting in long-term business performance. CSR research in the construction sector tended to survey public-listed construction firms and construction SMEs. The majority of studies on publicly listed construction firms focus on the level of CSR disclosure. It could be inferred that only publicly-listed construction companies had a sense of CSR activity as a result of the regulatory requirements for public listed firms to participate and report their CSR activities.

In Malaysia, for example, public-listed firms are mandatorily required to adopt CSR practices and then disclose their CSR activities in the annual reports which incorporated in the listing requirements of Bursa Malaysia (Appendix 9C, Part A, Paragraph 29), which obligates all public-listed firms to provide a summary of the CSR activities or practices performed by the listed firm and its subsidiary (Bursa Malaysia Securities Berhad, 2019). Indeed, Bursa Malaysia Securities Berhad has established a

CSR framework that focuses on four main areas of CSR activities, including the environment, the workplace, the community, and the marketplace, to direct publicly-listed firms in reporting their CSR activities. However, the findings showed that the public-listed construction firms did not completely enforce CSR since there existed variations in the nature and extent of the reporting process. It can be concluded that the construction firms have their own specific approach to CSR based on their understanding of CSR.

CSR research in the construction sector, on the other hand, primarily used either quantitative or qualitative methods. By both approaches, the studies have shown that most construction firms have adopted hidden CSR by which they have already engaged in CSR activities but have not referred to these activities as CSR. It can be argued that construction firms do not really understand what the CSR is all about. Such studies also noted that the absence of a guideline to direct CSR adoption process was the most challenging issue facing construction firms. Lou, Lee, and Mathison (2012) noted that no clear guidance was provided to help organisations implement CSR, particularly for SMEs.

In summary, it can be inferred that CSR activities in the construction sector were predominantly informal and in the early stages of development. It also observed that the status of CSR implementation in construction firms operating in both developed and developing countries does not vary substantially, either in public-listed construction firms or in construction SMEs. In addition, it has also shown that the driving forces of CSR are significantly different from country to country and more in line with government policy (Zhang, Oo, Teck, & Lim, 2019; Ekung, Ujene, & Ebong, 2014). The lack of understanding of the CSR concept and the lack of guidelines that could enable construction firms to embrace CSR were key issues that hindered the successful implementation of CSR into practice (Rameezdeen, 2007; Lou, Lee, & Mathison, 2012; Lichtenstein, Badu, Owusu-Manu, Edwards, & Holt, 2013; Bevan & Yung, 2015; Mwangi & Otieno-Mwembe, 2015; Abdullah, Mohandes, Hamid, & Singh, 2016; Gharip and Majid, 2017; Alotaibi, Edum-Fotwe, & Price, 2019).

Finally, the contrasting findings highlighted the essential need for an initiative to provide guidelines for the successful adoption of CSR into practice. As stated earlier, this study attempted to identify key factors that could enhance the successful adoption of CSR into practice in the Malaysian construction sector. By understanding CSFs, construction firms are guided as how to successfully incorporate CSR into practice.

2.7 Previous Studies on CSFs for CSR Practice

Literature reviews in mainstream journals have shown that only a few studies have been performed to date to investigate CSFs for CSR practices. Sangle (2010), for example, has empirically examined CSFs for CSR in the Indian public sector. The research used both secondary and primary data to provide guidance to CSFs for CSR adoption. Secondary data from publicly accessible reports and primary data from the literature reviewed were used to define measurements. Based on data from a questionnaire-based survey of 43 valid respondents, the study revealed four variables that has had a positive correlation between the successful CSR and the ability of the organisation. These factors are considered to be CSFs for CSR adoption in the Indian public sector as shown in Table 2.4.

Table 2.4 CSFs for CSR Practice in the Indian Public Sector

No.	Critical Success Factor
1.	Ability to integrate CSR with functional strategies
2.	Organisational ability to manage stakeholder groups
3.	Ability to evaluate CSR benefits
4.	Top management support

Source: Sangle (2010)

In another study, Kahreh, Mirmehdi, and Eram (2013) established CSFs for the introduction of CSR in the Iranian banking sector. The study adopted a questionnaire-based survey, which described the measurement items from an appropriate literature review. The data was obtained from 60 experts in the academic and professional sectors of the field. Experts were asked to classify and rate the CSFs according to their experience. An analysis showed that 23 CSFs for CSR for the banking sector were

classified under five major organisational functions, including financial, marketing, environmental, strategic and human resources, as shown in Table 2.5.

Table 2.5 CSFs for CSR Practice in the Iranian Banking Sector

No.	Critical Success Factor	Function
1.	Organisational alignment, purpose, vision and values consistent with responsible business	Strategic
2.	Information provision	Strategic
3.	Knowledge sharing	Human resources
4.	Cooperation	Human resources
5.	Legal norms	Environmental
6.	Employee volunteering	Human resources
7.	Community involvement in decision-making	Human resources
8.	Involvement of board of directors	Strategic
9.	Inspirational leader	Strategic
10.	Financial orientation of the organisation	Financial
11.	Customer satisfaction and loyalty	Marketing
12.	Organisational brand	Marketing
14.	Financial performance and economic environment	Financial
15.	Social norms and the impact of community factors	Environmental
16.	Transformation of stakeholders' needs and expectation into business strategy	Financial
17.	Organisational culture	Human resources
18.	Competitive orientation of the organisation	Strategic
20.	Formal strategic planning	Strategic
21.	High level of communication in the organisation	Human resources
22.	Presence of a CSR committee	Human resources
23.	Top management commitment to CSR	Strategic

Source: Kahreh, Mirmehdi, and Eram (2013)

Meanwhile, Fuzi, Habidin, Hibadullah, Zamri, and Desa (2015) investigated the CSFs for CSR practice in the Malaysian automotive sector. The study used a questionnaire-based survey to collect research data. Measurement variables were built from twenty-eight previous studies. Based on the information gathered from a group of 27 top managers in the automotive sector, the study identified six CSFs that are important for CSR initiatives in the Malaysian automotive sector, as shown in Table 2.6.

Table 2.6 CSFs of CSR Practice for the Malaysian Automotive Industry

No.	Critical Success Factor
1.	Employee involvement
2.	Customer focus
3.	Corporate governance
4.	Human right
5.	Environment
6.	Community and society

Source: Fuzi, Habidin, Hibadullah, Zamri, and Desa (2015)

The above-mentioned studies defined CSFs for CSR practice in different sectors, except for the construction sector. On methodological issues, both researches used a questionnaire-based survey to identify CSFs for CSR practices. Since there was no specific questionnaire for measuring CSFs in particular sectors, the studies used a literature review to establish the relevant critical factors for the measurement items in the questionnaire. In addition, it should be noted that these studies have explored CSFs for the application of CSR in an organisation. This means that the surveyed organisations have already embraced CSR and the identified CSFs were used to enhance the practice. Contradictory, the purpose of the current study was to explore CSFs that influence the successful adoption of CSR, which is the initial stage prior to the actual application of CSR.

Although there existed some consistent results, for example, employee involvement or commitment in CSR processes was reported as one of the CSFs for CSR practices in the Iranian banking sector and the Malaysian automotive sector, these already developed CSFs can not be generalized as they tend to be relative and differ across the

business environment, the sector and the country perspective. For example, the automotive sector is regarded as a manufacturing sector which involves a steady-state process (Kazaz & Birgonul, 2005). Conversely, the construction sector is manifested by its complexity and diversity, and by the non-standard nature of its end product, in the sense that each project varies to some degree from the next (Brown & Adam, 2000). For this reason, experts have noted that one success factor may be of great importance in one sector or country, but may not necessarily be of equal importance in another sector or country (Rockart, 1979; Auruškevičiū, Šalciuvienė, Kazlauskaitė & Trifanovas, 2006; Krasniqi, Shiroka-Pula, & Kutllavci, 2008; Benzing, Chu, & Kara, 2009; Simpson, Padmore, & Newman, 2012; Lampadariou, 2016).

Moreover, the driving factors of CSR differ greatly from country to country (Duman, Giritli, & McDermott, 2016) and from sector to sector (Martinuzzi, Gisch-Boie, & Wiman, 2010). For example, the national socio-cultural environment and the degree of national economic growth are considered to be important variables influencing CSR understanding and practice (Ismail, Jaafar, & Saleh, 2015). To uncover the CSFs for CSR it is therefore necessary to investigate these factors within a specific sector and geographical context. In this regard, it is important to carry out a specific study in the construction sector in the context of Malaysia in order to identify the CSFs for the adoption of the CSR in the construction firms of Malaysia, which was the aim of this study.

2.8 Development of the Measurement Constructs

In developing the measurement constructs, researcher has a choice to either use the already developed questionnaire or design a new questionnaire based on a literature search (Artino, Jr., La Rochelle, Dezee, & Gehbach, 2014). According to Johnston, Wiedmann, Orta-Ramirez, Oliver, Nightingale, Moore, Stevenson, and Jaykus (2013), a literature search could be useful for pre-selecting items to be included in the initial Delphi questionnaire. Using this approach to identify the measurement constructs was evidence in many CSFs identification Delphi studies in the CEM field. For example, Olawumi and Chan (2019) identified potential CSFs from twenty-three previous studies to explore CSFs for the incorporation of building information management and sustainability

principles into construction projects. The factors were then included in the initial round of the two round Delphi process.

Since there was no specific CSFs defined in the literature for the successful adoption of CSR in the construction sector, a systematic literature search was carried out in three steps. First, the most influential articles were identified by using an academic electronic database Google Scholar as the basis for the search. Articles indexed in Scopus and the Web of Science have been given priority. Second, articles that are not directly relevant to the study were eliminated. Third, the cited references of the articles were tracked to identify if the prior research relevant to the current study. Forth, the useful articles were then searched from the university's online academic library. However, if the articles could not be found in the academic library, the Google Scholar database were used. Finally, each of the final articles were reviewed and analysed to find out the relevant CSFs that can be used as the initial measurement constructs. The detailed process was described as follow.

The term “CSFs for CSR” was the search algorithm used to identify the articles conforming to the preliminary set. Only three papers were, however, specifically related to CSFs for CSR. These papers were conducted in three different sectors include the public sector (Sangle, 2010), banking sector (Kahreh, Mirmehdi, and Eram, 2013), and automotive sector (Fuzy, Habidin, Hibadullah, Zamri, and Desa, 2015). Although CSFs for CSR have been documented in these papers, none of the studies were conducted in the construction sector. Again, the value of these already developed CSFs could not be generalized as they are customized to the specific business setting, sector and country perspectives. It would therefore be safe to assume that there are no specific CSFs defined in the literature for the successful adoption of CSR in the construction sector.

As an alternative, the searching strategy was then initiated by identifying diverse terms, irrespective of sectors and countries that may theoretically have a significant effect on the adoption of CSR by Malaysian construction firms, as a proxy. The search terms “CSR success factors”, “CSR drivers”, “CSR determinants”, “CSR barriers” and “CSR obstacles”, were used by the “AND” and “OR” Boolean operators. Some exclusion criteria have been implemented to filter the results. First, only original, peer-reviewed

scientific articles and conference proceedings were included. Second, articles which do not explicitly define CSR were excluded. Third, only articles written in English were considered. Result from this structured process, an initial set of forty-three papers including the first three papers was obtained.

Once the initial set of contributions was generated, each of the selected articles were then reviewed. However, some of the articles have been conducted within the publicly listed construction firms which was beyond the scope of the current study. As such, the initial set was then expanded by adding another filtering process to create the final set of papers. One exclusion criterion was that the papers examined the publicly listed firms were added. As a result, a final set of thirty-three papers was identified. It should be noted that most of the papers were indexed in Scopus and the Web of Science. Similar procedure has been applied in many previous literature review works (Lin, Ho, & Shen, 2018; Navarro, Yepes, & Martí, 2019; Suprayoga, Bakker, Witte, & Spit, 2020).

Finally, each of the thirty-three selected papers were analysed. A critical evaluation of the factors was then carried out on the basis of the frequency at which they were found to be significant in the literature. This is considered a satisfactory approach that helps distil the possible factors into a manageable and appropriate list of CSFs for further critical review in the first round of a Delphi survey. The results revealed that twelve factors were likely to be the potential CSFs for the adoption of CSR in the Malaysian construction sector. These factors have been cited for more than one studies related to CSR practice within an organisation. In contrast, a study by Fuzi, Habidin, Hibadullah, Zamri, and Desa (2015) to investigate the CSFs for CSR practice in the Malaysian automotive sector also used a literature search to identify the related critical factors. They defined six key factors from twenty-eight previous studies and used them as measurement constructs. Recent study by Adzmi and Hassan (2018) also used literature search to explore and identify CSFs on project planning that lead to project success. They used three previous studies and grouped the factors into five measurement constructs.

The identified twelve factors were considered to be adequate as the initial measurement constructs since this study used a semi-structured questionnaire in the first

round of the Delphi process. The final list of the constructs might be expanded considering that expert panellists have the option to recommend the new factors. Most notably, all of these factors have been used in a number of previous studies and therefore may have a significant impact on CSR practices. Unlike other studies, the fewer measurement constructs in CSFs studies is accepted since CSFs are concerned with practical implementation. Therefore, organisational CSFs should be as minimal as possible (Daniel, 1961; Parmenter, 2019).

Table 2.7 tabulates a summary of twelve potential success factors and their ranks according to the most quoted in the selected studies. The twelve factors have been identified as being the most frequently cited factors of significance to CSR practice in organisations and are therefore related to this study of CSFs. It could thus be concluded that these factors are necessary and critical for the successful adoption of the CSR agenda in the construction sector in Malaysia.

Table 2.7 Summary of Selected Studies

No.	Success Factor	Reference	Frequency	Rank
1.	Financial resources	Tay, Rahman, Aziz, and Sidek (2015); Abdullah, Mohandes, Hamid, and Singh (2016); Bylok (2016); Nadeem and Kakakhel (2016); Lee, Herold, and Yu (2016); Shibin, Gunasekaran, Papadopoulos, Dubey, Singh, and Wamba (2016); Yuen and Lim (2016); Agudo-Valiente, Garcés-Ayerbe, and Salvador- Figueras (2017); Bello, Banda, and Kamanga (2017); CSR Asia (2017); Goyal and Kumar (2017); Lincoln (2017)	20	1
2.	Top management support	Maon, Lindgreen, and Swaen (2009); Setthasakko (2009); Sangle (2010), Petrini and Pozzebon (2010); Arevalo and Aravind (2011); Chowdhury, Hossain, and Dewan (2015); Ghasemi and Nejati (2013); Kahreh, Mirmehdi, and Eram	16	2

Table 2.7 Continued

No.	Success Factor	Reference	Frequency	Rank
		(2013); Kang, Ahmad, Goh, and Song (2015); Kolyperas, Morrow, and Sparks (2015); Shen, Govindan, and Choi (2015); Tay, Rahman, Aziz, and Sidek (2015); Abdullah, Mohandes, Hamid, and Singh (2016); Bello, Banda, and Kamanga (2017); CSR Asia (2017); Goyal and Kumar (2017)		
3.	Employee education and training on CSR	Shahin and Zairi (2007); Maon, Lindgreen, and Swaen (2009); Setthasakko (2009); Petrini and Pozzebon (2010); Arevalo and Aravind (2011); Santos (2011); Chowdhury, Hossain, and Dewan (2015); Shen, Govindan, and Choi (2015); Tay, Rahman, Aziz, and Sidek (2015); Bylok (2016); Lee, Herold, and Yu (2016); Bello, Banda, and Kamanga (2017); CSR Asia (2017); Goyal and Kumar (2017)	13	3
4.	Participating of key stakeholders in CSR process	Maon, Lindgreen, and Swaen (2009); Zhang, Bi, and Liu (2009); Sangle (2010); Wariua-Nyalwal, Nyalwal, Mutavi, and Muchiri (2013); Fuzi, Habidin, Hibaullah, Zamri, and Desa (2015); Kang, Ahmad, Goh, and Song (2015); Shen, Govindan, and Choi (2015); Šontaitė-Petkevičienė (2015); Tay, Rahman, Aziz, and Sidek (2015); Bylok (2016); CSR Asia (2017); Oyebanji, Liyanage, and Akintoye (2017)	12	4

Table 2.7 Continued

No.	Success Factor	Reference	Frequency	Rank
5.	Integrating CSR visions with organisation's strategy	Zhang, Bi, and Liu (2009); Sangle (2010); Adeyemo, Oyebamiji, and Alimi (2013); Kahreh, Mirmehdi, and Eram (2013); Ekung, Ujene, and Ebong (2014); Tay, Rahman, Aziz, and Sidek (2015); Hamidu, Haron, and Amran (2016), Shibin, Gunasekaran, Papadopoulos, Dubey, Singh, and Wamba (2016); Yuen and Lim (2016), CSR Asia (2017), Goyal and Kumar (2017)	11	5
6.	Government support	Zhang, Bi, and Liu (2009); Santos (2011), Adeyemo, Oyebamiji, and Alimi (2013); Ekung, Ujene, and Ebong (2014); Kang, Ahmad, Goh, and Song (2015); Tay, Rahman, Aziz, and Sidek (2015); Hamidu, Haron, and Amran (2016); Shibin, Gunasekaran, Papadopoulos, Dubey, Singh, and Wamba (2016); CSR Asia (2017); Lincoln (2017)	10	6
7.	Employee involvement in CSR process	Shahin and Zairi (2007); Arevalo and Aravind (2011); Santos (2011); Adeyemo, Oyebamiji, and Alimi (2013); Kahreh, Mirmehdi, and Eram (2013); Fuzi, Habidin, Hibadullah, Zamri, and Desa (2015); Tay, Rahman, Aziz, and Sidek (2015); CSR Asia (2017); Goyal and Kumar (2017)	9	7
8.	Managerial and internal CSR skills	Maon, Lindgreen, and Swaen (2009); Sangle (2010); Arevalo and Aravind (2011); Chowdhury, Hossain, and Dewan (2015); Lee, Herold, and Yu (2016); Nadeem and Kakakhel (2016); Goyal	8	8

Table 2.7 Continued

No.	Success Factor	Reference	Frequency	Rank
		and Kumar (2017); Oyebanji, Liyanage, and Akintoye (2017)		
9.	Organisational culture	Setthasakko (2009); Adeyemo, Oyebamiji, and Alimi (2013); Kahreh, Mirmehdi, and Eram (2013); Kang, Ahmad, Goh, and Song (2015); Shibin, Gunasekaran, Papadopoulos, Dubey, Singh, and Wamba (2016); Shen, Govindan, and Choi (2015); Nadeem and Kakakhel (2016)	7	9
10.	Human resources	Yeh, Chen, and Wu (2014); Kang, Ahmad, Goh, and Song (2015); Abdullah, Mohandes, Hamid, and Singh (2016); Lee, Herold, and Yu (2016); Yuen and Lim (2016), Agudo- Valiente, Garcés-Ayerbe, and Salvador-Figueras (2017)	6	10
11.	Monitoring and evaluating of CSR activities	Shahin and Zairi (2007), Petrini and Pozzebon (2010), Shen, Govindan, and Choi (2015); Abdullah, Mohandes, Hamid, and Singh (2016)	4	11
12.	Strategic collaboration with suppliers	Zhang, Bi, and Liu (2009); Tay, Rahman, Aziz, and Sidek (2015); Shibin, Gunasekaran, Papadopoulos, Dubey, Singh, and Wamba (2016)	3	12

As discussed earlier, the theory of social capital focuses on the value of the relationship between individuals in organisations as well as on networking (Kamaluddin, Hasan, Arshad, & Abu Samah, 2016). All of these identified factors are regarded as consistent with the theory of social capital. According to this theory, firms can leverage their internal resources and capabilities to formulate a CSR strategy for achieving and sustaining a competitive advantage (Tate & Bals 2018).

Synthesizing the findings, the availability of financial resources is the most frequently cited success factors by researchers, followed by top management support, participation of key stakeholders in CSR process, integrating CSR visions with organisation's strategy, government support, employees' involvement, managerial and internal CSR skills, organisational culture, human resources, monitoring and evaluating of CSR activities, and strategic collaboration with suppliers. The following sections discussed the potential success factors for CSR adoption in the Malaysian construction sector on the basis of the above findings.

2.8.1 Financial Resources

Investment in CSR incurs an extra cost to the firm due to its voluntary nature. The charitable and discretionary behaviour of CSR incurs an extra cost to the firm. In this sense, a construction firm must have adequate funds to sponsor the costs of CSR activities, and it might be in short-term or continuous outflows. The capability of a construction firm to invest in CSR is therefore depend on the availability of its financial capital. As noted by Hasan and Habib (2017), limited available financial resources would limit the ability of the firm to make meaningful CSR investments, particularly for younger and smaller firms. Supporting this, a study of Kang, Ahmad, Goh, and Song (2015) and Abdullah, Mohandes, Hamid, and Singh (2016) within the Malaysian construction sector found that financial constraints were the main obstacles for CSR adoption.

It is clear that there is a direct relationship between CSR and financial resources. Nonetheless, construction firms will be able to increase opportunities to engage in CSR programs with the availability of financial resources (Waddock & Graves, 1997). In addition, the firm can increase its discretionary activities when their financial resources increased (Surroca, Tribó, & Waddock, 2010). Research by Chek, Mohamad, Yunus, and Norwani (2013) in Malaysia indicated that large and higher-income firms participated more in CSR activities given that they reported a greater level of CSR disclosure.

2.8.2 Top Management Support

Top management has an important role to play in ensuring that all business strategies are in effect. They are the sole authority to make a definitive decision on any plan or policy of the firm (Phan, Baird, & Blair, 2014). Top management support is a crucial factor in every firm and has been examined in numerous studies as one of the critical success factors related to performance. In CEM literature, for example, top management support was found to contribute positively to organisational performance (Young and Poon, 2013; Khan, Long, & Iqbal, 2014; de Melo Moura, 2016; Al Kuwaiti, Ajmal, & Hussain, 2018).

CSR is initiated as a strategic competitive tool within the organisation. This means that the CSR needs to be actively initiated by the top management team. CSR is therefore a management tool which, when used, must be fully embraced by the top management of the organisation. Top management as members of organisations has a significant role to play in ensuring that all organisational policies are in effect. According to Pruzan and Miller (2006), leadership plays a critical role in initiating and developing CSR programs within and across organisations. It has come to the agreement that top management support is critical in driving the firm's CSR programs (Sangle, 2010; Bonner & Friedman, 2017). On the other hand, a study in the Malaysian construction sector found that no top management support was seen as a critical obstacle to the adoption of CSR (Abdullah, Mohandes, Hamid, & Singh, 2016; Gharip & Majid, 2017).

2.8.3 Employee Education and Training on CSR

In a knowledge-based society, employees are the most important competitive element of an organisation (Kefela, 2010), because they are the internal stakeholders of firms. Employees are the key determinant of any strategy implemented by the organisation. In other words, the success of an organisation is determined by the performance of its employees (Siddiqui, 2014). Such ability, skill or competence can be built through education and training (Prabawati, Meirinawati, & Oktariyanda, 2017). Employees with adequate expertise capable to minimizing or eliminating differences between actual performance and future performance (Prabawati, Meirinawati, &

Oktariyanda, 2017). Employees are therefore expected to have the ability, skill or competence to carry out the vision and mission of the organisation.

Since CSR is not a routine job, employees engaged in CSR need the ability, skill or competence to undertake CSR activities, and this is particularly important in the early stages of the incorporation of CSR into a firm strategy (von Weltzien Hoivik & Shankar, 2011). According to Low and Ong (2015), employees are an integral part of every organisation and have a significant impact on the CSR activities carried out by the organisation. They are the driving force behind the organisational CSR (Seivwright & Unsworth, 2016). It has been said that employees who appreciate the CSR agenda of their firm to a greater degree will work with more devotion and loyalty and display more creativity in their daily job (Abdullah, Ashraf, & Sarfraz, 2017). It is therefore important for firms to educate and train employees who are directly involved in CSR activities.

2.8.4 Participation of Key Stakeholders in CSR Process

In today's business environment, engaging stakeholders conveniently, transparently, authentically and more regularly is no longer an option, as stakeholder participation is about taking advantage of opportunities and managing risks (Heismann, 2014). In the construction sector, stakeholder participation is one of the critical factors related to project success (Prabhu, 2016; Jin, Zhang, Liu, Fenga, & Zuo, 2017). Push-and-pull effects and interrelationships of characteristics within the stakeholders of the organisation and between stakeholders themselves can have a significant impact on the construction sector and its entire value chain (Ward & Chapman, 2008).

Stakeholder participation is an important part of the CSR programs of the firm (Lane & Devin, 2018). It will entail a meaningful and structured dialog to facilitate the exchange of opinions, feedback and information between the firm and its stakeholders on its CSR agenda (Singh, Sethuraman, & Lam, 2017). The importance of the participation of key stakeholders in the CSR process can be seen from two perspectives. First, by engaging key stakeholders, firms are more transparent about their CSR activities and, in turn, are able to maintain credibility and build a reputation in the marketplace (McWilliams & Siegel, 2001). Second, by engaging key stakeholders, the real needs of society can be identified (Sarfo, Twum, Koku, Yankah, Kloos, & Worku, 2016). The

participation of key stakeholders in CSR programs is therefore essential to the success of the CSR agenda.

2.8.5 Integrating CSR Visions with Organisation's Strategy

From the classical point of view, the organisational strategy can be seen as a decision-making mechanism to ensure the long-term sustainability of the firm (Johnson & Scholes, 1999; Rumelt, 1980). The incorporation of CSR into corporate strategies is one of the major challenges facing firms today. From a managerial perspective, adopting new approaches such as CSR can be complicated and risky, not only because managers need to decide whether or not to respond to a variety of internal and external stakeholder pressures, but also because they need to evaluate whether ongoing CSR programs will potentially match current practices (Yuan, Bao, & Verbeke, 2011). Westley and Vredenburg (1996) stated that successful CSR as a new practice often depends on connections with other organisational routines; an appropriate response to CSR challenges may require close coordination across relevant functions. Inadequate cross-functional coordination and organisational barriers may lead to internal conflict and, eventually, to poor performance towards the achievement of social and corporate objectives (Cordano & Frieze, 2000).

Therefore, successful adoption of CSR will only be accomplished if its holistic principle is well understood and incorporated into business strategic planning (Guadamillas-Gómez, Donate-Manzanares, & Škerlavaj, 2010). Integrating CSR into strategic planning allows the firm to develop a more long-term focus and thus help them evaluate threats and opportunities (Hitchcock and Willard 2009). According to Peršič and Markič (2013), the effective integration of CSR visions with the organisational strategy has led to successful corporate operations, especially in the revenue, profit and operational economy. Therefore, making CSR an integral part of the firm's strategy would allow management to stay focused on CSR and support its activities.

2.8.6 Government Support

Government has a vital role to play in ensuring that businesses comply with the rules and standards of society (Singhal, 2014). To accomplish these goals, policymakers

have a variety of mechanisms that promote CSR but must take into account national political, economic and social contexts when designing policy frameworks. The United Nations Global Compact has indicated that the key public policy options for governments to encourage CSR and business participation are: awareness-raising campaigns to develop a common sense of corporate responsibility between businesses and the general public, and what business can do to enforce it; alliances designed to establish win-win situations in which various stakeholders work collectively toward a shared goal; soft law approaches that promote and incentivise voluntary action by business as a complement to state regulation; and mandating instruments that allow governments to monitor and enforce corporate accountability (Peters & Röß, 2010).

A study by Škare and Golja (2014) showed that CSR firms had a positive impact on economic growth and that countries that actively promote CSR could achieve higher growth rates. Conversely, countries without a developed and supportive CSR environment and guidance can hardly expect to increase economic output compared to those generated by CSR firms through new growth channels, such as new markets and customers. According to Singhal (2014), governments should legislate, promote, cooperate with businesses, and encourage good practice in order to facilitate the development of CSR. Indeed, a study by Graafland and Zhang (2014) found that insufficient government support was one of the most significant obstacles to the CSR agenda in China. Government support in terms of minimizing cost constraints by offering a tax incentive can be seen as a positive strategy to reduce the obstacles to the CSR agenda (Abdullah, Mohandes, Hamid, & Singh, 2016).

2.8.7 Employee Involvement in CSR Process

It is well known that employees are one of the most significant stakeholders of the firm. Since employees may be impacted by and even affect their organisational activities, they play a key role in the success or failure of their organisation (Im, Chung, & Yang, 2017). From the stakeholder point of view, employees are key organisational stakeholders in the CSR context. In this viewpoint, Collier and Esteban (2007) highlighted the fact that organisations rely on employees' responsiveness and participation in CSR and is the the key to the effective delivery of CSR activities.

Employees cooperation also play a significant in the execution of effective CSR programmes.

Employees' participation in the CSR process will increase their sense of ownership and pride to the firm, resulting in an increase in their level of participation and involvement (Fuji, Habidin, Hibadullah, Zamri, & Desa, 2015; Im, Chung, & Yang, 2017). Smith and Kumar (2014) explained that, as employee attitudes towards CSR become positive, employees will have positive affective and ongoing commitments towards the company and, in turn, will strengthen organisational loyalty. Due to its strategic role in the organisation, the employees' participation in CSR is essential to its successful implementation (Chen & Hung-Baesecka, 2014; Szelągowska-Rudzka, 2016).

2.8.8 Managerial and Internal CSR Skills

Managerial skills that underpin the management process and the diffusion of knowledge within the organisation are of considerable importance, especially in coping with complex and ever-changing problems and challenges that require specific skills and a higher level of thinking (Oyugi, 2015). Because the solution of CSR issues is not a routine job, every problem in CSR needs its own approach, and thus managerial competencies are essential for the design of effective approaches to the implementation of sustainable solutions (Wesselink, Blok, van Leur, Lans & Dentoni, 2015). Leadership must have competencies capable of creating a vision of CSR that shaped the firm's CSR program, including planning to take risks, and searching for a new way to implement and learn about potential innovations in CSR, as well as how these innovations could impact the firm's CSR plan (Osagie, Wesselink, Blok, Lans, & Mulder, 2016).

There will be a high risk that implies an inability to generate value for the firm and society if managers lack skills, especially on how to incorporate CSR into the business strategy (Osagie, Wesselink, Blok, Lans, & Mulder, 2016). Nonetheless, a study by Orlitzky (2013) showed that CSR strengthens management skills and increases the firm's operational performance. In addition, a study conducted by Nadeem and Kakakhel (2016) found that lack of management skills was one of the key obstacles to non-compliance with standard CSR activities in SMEs.

2.8.9 Organisational Culture

According to Cameron and Quinn (2006), every organisation must have a clear sense of shared culture that enables to create social order, continuity, collective identity, commitment, and common vision while reducing the organisational uncertainties, resulting in the improvement of the organisational performance. It refers to a concept of beliefs, values, and vision shared by the members of an organisation (Coulter, 2003). Organisational culture might enhance management function by serving as a substitute for leadership when leadership behaviour is being duplicated by cultural values (Hartnell, Kinicki, Lambert, Fugate, & Corner, (2016). According to Tang, Li, and Zhang (2016), culture stimulating employees to follow information policy, related to collecting, preserving, dissemination and managing information will improve information security.

According to Cameron and Quinn (2006), any organisation must have a clear sense of shared culture that generates social order, cohesion, collective identity, commitment and common vision. It can reduce organisational uncertainties and, in effect, increase organisational performance. This refers to the concept of similar beliefs, values and vision are shared by all the members of the organisation (Coulter, 2003). Organisational culture can enhance management by serving as a substitute for leadership whenever leadership behavior is duplicated by cultural values (Hartnell, Kinicki, Lambert, Fugate, & Corner, 2016).

Lee and Kim (2017) claimed that the success of the CSR strategy depends primarily on the degree to which the firm's organisational culture is structured to match human resource actions with the firm's CSR-related goals and objectives. The empirical study conducted by Yu and Choi (2016), for example, showed a clear evidence that CSR-oriented organisational cultures have a fully mediating role in the relationship between pressure from stakeholders and the adoption of CSR practice. In addition, a study by Moshabaki and Shojaei (2011) indicated that organisational culture has a substantial effect on the organisational environment and CSR, and found a positive correlation between the two.

2.8.10 Human Resources

Human resources are described as the knowledge of a firm that relates to employees' experience, skills, commitment, relationships with each other and with those outside the firm (Qehaja & Kutllovci, 2015). According to Dupont, Ferauge and Giuliano (2013), human resources are a vital asset for any firm and a key source of competitive advantage for firms. This is because they have studied, planned and executed the firm's programs, thereby distinguishing the firm from other firms, they are the most valuable asset of the firm (Qehaja & Kutllovci, 2015). For firms implementing a CSR strategy, human resources are actually offering both strategic and organisational support to CSR (Jamali, El Dirani, & Harwood, 2015). It will also serve as a partner in deciding what is required or feasible in formulating corporate values and sustainability strategies. At the same time, human resources play a critical role in ensuring that employees implement the strategy effectively across the firm (Cohen, Taylor & Muller-Camen, 2018).

Lam and Khare (2010) argued that human resources have a major role to play in ensuring the success of the CSR agenda in terms of its contribution to planning and awareness-raising, implementation and process development, monitoring and feedback, and revision and institutionalization. In order to emphasize the close relationship between human resources and CSR, Cohen (2011) cited in Obrad and Gherheş (2018) pointed out the role of the Human Resources Department and Human Resources Management to ensure that all employees adhere to certain values and ethical behavior in compliance with corporate policy; to ensure transparency of the CSR by informing their employees with regards to internal and external actions; to evaluate CSR reports; adopt a recruitment strategy in accordance with the firm's values and social responsibility principles; to ensure and foster the employees' engagement with the company; and to ensure a suitable corporate climate which can allow the business to succeed in a responsible manner.

2.8.11 Monitoring and Evaluating of CSR Activities

CSR is ultimately about improving the firm's performance. The effects of CSR programs need to be measured to justify the benefits and costs of such initiatives (Guadamillas-Gómez, Donate-Manzanares, & Škerlavaj, 2010). For this purpose, the monitoring and evaluating of CSR activities can provide the firm with unique information

on its impact. This helps companies understand the actual realities and the role of beneficiaries in interventions with a better means of learning from previous experience, improvising the service delivery system, systematically planning and optimizing the distribution of resources and presenting outcomes as part of transparency to key stakeholders (Singh, Holvoet, & Pandey, 2018).

Monitoring and evaluating CSR activities can also be used as a tool to improve the ability to collaborate, coordinate and communicate with a wide range of stakeholders (Rampersad, 2015). The diversified monitoring and assessment process have contributed to the detection of relevant issues in a timely manner which, in effect, provides the opportunity to resolve issues through sound indicators and assists management with further consultation (Appleton and Booth, 2001). Such evaluation must be based on parameters related not only to financial or economic results but also to intangible outcomes, such as confidence or credibility (Surroca, Trib, & Waddock, 2010).

2.8.12 Strategic Collaboration with Suppliers

Strategic collaboration with suppliers is aimed at improving and generating more sustainable value in the supply chain (Leppelt, Foerstl & Hartmann, 2013). According to Manis-Anderson (2016), collaboration with suppliers with greater transparency is important for achieving successful CSR in terms of a highly beneficial by-product and greater opportunities for innovation, efficiency and cost savings. Such collaboration will also result in improved quality, efficiency and product design, enhanced social and environmental performance through information sharing and collaboration (Gullett, Do, Canuto-Carranco, Brister, Turner, & Caldwe, 2009; Aßländer, Roloff, & Nayir, 2016). It is primarily due to the fact that CSR is an organisational strategy that relies on a variety of ties within its management and operation (Valdez-Juárez, Gallardo-Vázquez, & Ramos-Escobar, 2018). The benefits that can be gained are crucial if the firm proceeds on the path to organisational and financial consolidation.

Therefore, the key goal of strategic collaboration with suppliers is to ensure that environmental practices are implemented in all phases of the process, from the sourcing of raw materials to the delivery to the customer, such as purchases, production, packaging, warehousing, distribution and assembly (Tekin, Ertürk & Tozan, 2015).

Across the construction sector, the long-term goal of strategic collaboration with suppliers is to keep all processes under control, minimize industrial waste, reduce carbon emissions and eradicate any practices that could be harmful to the environment. In fact, the conditions of the supplier's for CSR activities will directly affect the corporate image, goodwill and sales of the downstream business (Hsueh, 2012). In addition, strategic collaboration with suppliers may support a business on the CSR journey and increase the impact of these initiatives by mitigating risks as well as delivering value across the supply chain.

2.9 Research Gap

It argued that a deeper understanding of CSFs is a prerequisite for a construction firm to embrace CSR into practice, in line with the corporate strategy and its internal characteristics. However, while there is a significant amount of CSR literature in the construction sector, little is known about CSF studies for CSR adoption. To date, most CSR research in the construction sector has mainly been undertaken to understand CSR perception, CSR dimension, CSR implementation status, and CSR performance (Xia, Olanipekun, Chen, Xie, & Liu, 2018). It would be reasonable to assume that there were no specific CSFs that defined the adoption process of CSR in the construction sector found in the literature. It has led the CSR process to remain alone from a systematic and holistic point of view. This suggests that very little effort has been made to carry out such studies that determine a set of key factors that have an impact on the adoption of CSR in the construction sector.

While some studies have been performed on CSFs for CSR practice in other sectors, the idea of converting CSR practice in other sectors into the construction sector can not be justified given the unique nature of the construction sector. For this reason, it is important to carry out a study on CSFs in specific sectors or countries, provided that one success factor may be of great importance in one sector or country but may not necessarily be of equal importance in another sector or country (Rockart, 1979; Auruškevičiė, Šalciuvienė, Kazlauskaitė & Trifanovas, 2006; Krasniqi, Shiroka-Pula, & Kutllavci, 2008; Benzing, Chu, & Kara, 2009; Simpson, Padmore, & Newman, 2012; Lampadarios, 2016). This current knowledge gap calls for the need to provide a list of

CSFs for CSR adoption and a special focus should be given in the context of the construction sector.

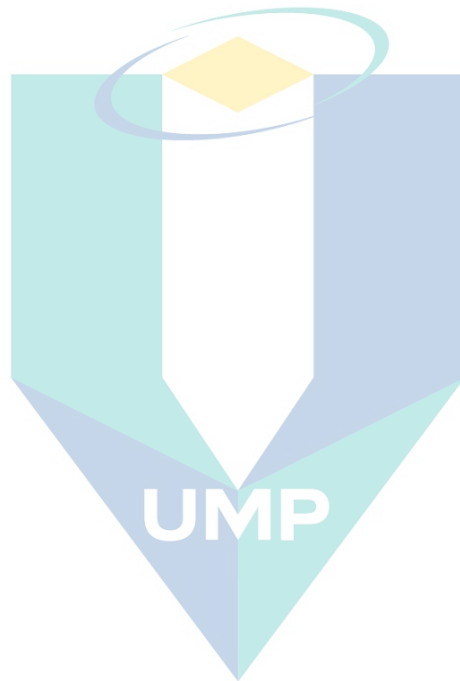
2.10 Chapter Summary

The review of the studies discussed in this chapter indicates that most of the previous studies on CSR in the construction sector have placed a specific focus on understanding CSR perception, CSR dimension, CSR implementation status, and CSR performance. The studies have shown that CSR phenomenon within the construction sector was at early stage of implementation. Although some aspects of CSR have been implemented but they are largely informal. Factors such as the lack of understanding about CSR concepts and the lack of guidelines were reported as the main reason for the absence of a formal CSR strategy in construction firms.

Factors that lead to its successful adoption, however, remains an area of conjecture. A deeper understanding of a few key elements that affect the successful adoption of CSR in practice, in line with the CSFs theory, is a prerequisite for a construction business. The review also presented evidence that little work has been performed to date on CSFs on CSR adoption and very little, if any, of the studies conducted in the construction sector. It would be reasonable to conclude that there are no specific CSFs that have been reported for the adoption of CSR in the construction sector in the literature.

A list of potential CSFs has been collected from literature, irrespective of sectors or countries that could potentially have a significant effect on CSR initiatives in the construction sector as a proxy. Twelve factors have been listed as potential critical factors for the adoption of CSR in the Malaysian construction sector. These include financial resources, top management support, employees' education and training, participating of key stakeholders, integrating CSR visions with organisation's strategy, government support, employees' involvement, managerial or internal skills, organisational culture, human resources, monitoring and evaluating of CSR activities, and strategic collaboration with suppliers. The identified factors will then be used as an initial variables of CSFs for CSR adoption in the Malaysian construction sector.

This chapter sets the groundwork for the next chapter. Chapter 3 discusses the methodology chosen to conduct this study, followed by Chapters 4 and 5 which provide results and recommendations.



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CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter outlines the procedures for performing the current study, based on the interpretation of the literature review provided in the previous chapter. The chapter draws a map of the route to address research questions. This chapter will therefore discuss the methodological research approach with a specific protocol on the Delphi study and the qualitative method as a guideline for seeking answers to the research subject. The chapter will also explain decisions on the basis of the specific methodological approaches chosen. Towards the end, the chapter discusses ethical considerations in the conducting the study. The last section is a summary of the chapter.

3.2 Research Design and Rationale

This study was undertaken to investigate the measures by which the successful adoption of the CSR agenda in the Malaysian construction sector could be achieved. Research questions were as follows:

RQ₁: What are the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as defined by the Delphi expert panellists?

RQ₂: How does the level of readiness of the Malaysian construction firms to adopt corporate social responsibility (CSR) as measured against the validated critical success factors (CSFs)?

This study was conducted in two stages in order to answer the research questions. In Stage 1, the study examined the valid CSFs for CSR adoption in the Malaysian construction sector as specified in Research Question 1 (RQ₁). Once the CSFs have been

established, the study will move to Stage 2. At this stage, the level of readiness of Malaysian construction firms to adopt CSR was assessed against the validated CSFs, as specified in Research Question 2 (RQ₂). Figure 3.1 demonstrates the process of research developed for this study.

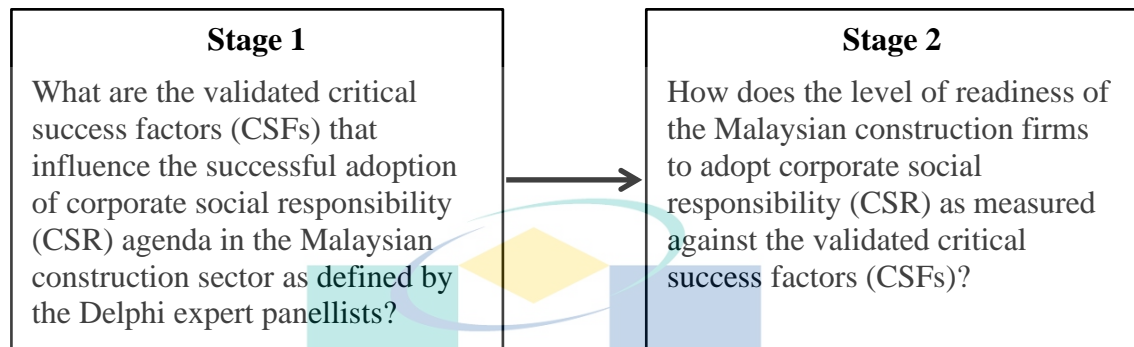


Figure 3.1 Research process for the current study

Creswell (2014) indicated that research designs are research plans and procedures that cover decisions from specific assumptions to comprehensive methods of data collection and analysis. It should be focused on the essence of the research question or issue being discussed, the researcher's personal knowledge and the study audience (Creswell, 2014).

The objective of RQ₁ was to investigate and validate CSFs that influence the successful adoption of CSR agenda in the Malaysian construction sector by the used of Delphi method. The Delphi method is a qualitative research technique that is used to establish consensus by input from a panel of experts without the need for face-to-face communication (Hannifin, Brooks, Carroll, Fitzgerald, Gabhainn, & Sixsmith, 2007; Linstone & Turoff, 2010). Because the implementation of CSR in the Malaysian construction sector is at an early stage (Abolore, 2012; Abdullah, Mohandes, Hamid, & Singh, 2016), it would be reasonable to assume that there was little knowledge that characterizes the adoption process of CSR in the sector.

Due to incomplete knowledge of the problem or phenomenon under study, scholars such as Paliwoda (1983), and Skulmoski, Hartman, and Krahn (2007) suggested that Delphi technique is the most appropriate research tool (Paliwoda, 1983; Skulmoski, Hartman, & Krahn, 2007). Therefore, the Delphi method was considered to be the best

approach for the current study. In addition, this method has proven to be a successful approach to analyzing complex issues in CEM research (Hallowell & Gambatese, 2010; Tran, Lester, & Sobin, 2014; Ameyaw, Hu, Shan, Chan, & Le, 2016). Therefore, the Delphi method was used to respond to the RQ₁.

With regard to the RQ₂, the objective was to determine the level of readiness of Malaysian construction firms to adopt CSR as assessed against the validated CSFs. A case study was chosen because it involved an empirical investigation of a specific contemporary phenomenon within its real-life context (Yin, 2009). In particular, this study adopted a phenomenological research strategy to understand how case firms make sense of the phenomenon under study, i.e. the presence of the CSR practice underlying by the validated CSFs. As Creswell (2014) noted, phenomenology is useful in observing a limited number of subjects to determine the essence of their experience with the phenomenon. A case study was therefore adopted to respond to the RQ₂.

To iterate, this analysis was performed in two stages. Stage 1 and Stage 2 responded to RQ₁ and RQ₂, respectively. In the first stage, the validation of CSFs that influence the successful adoption of CSR agenda in the Malaysian construction sector was examined. This was addressed by the use of the Delphi method. Once the CSFs were identified, the study moved to Stage 2. In this second stage, the level of readiness of Malaysian construction firms to adopt CSR was assessed against the validated CSFs. It was resolved by performing an organisational case study through employing in-depth interviews protocol based on a one-to-one basis to the owners or directors of the selected case firms.

3.3 Justification for the Selection of Delphi Method

In addition to the methodological rationale discussed above, the Delphi method was chosen for a number of other reasons as the following:

- i. The dynamic nature of the construction sector has called for the need for CEM research to shift from a conventional approach to that are more robust and rigorous subjective methods (Hallowell & Gambatese, 2010; Tran, Lester & Sobin, 2014). In this regard, the Delphi technique has proved to be the perfect and

reliable method for subjective research in CEM research (Hallowell & Gambatese, 2010; Tran, Lester, & Sobin, 2014; Ameyaw, Hu, Shan, Chan, & Le, 2016).

- ii. As discussed in Section 2.5 of Chapter 2, the phenomenon of CSR in the construction sector is fairly new and has yet to be fully understood (Larsen, Phua, & Kao, 2012; Bevan & Yung, 2015; Abdullah, Mohandes, Hamid, & Singh, 2016). In the context of this study, it was considered that Malaysian construction firms have little understanding of the concept of CSR and how to apply it, as revealed in the studies of Abdullah, Mohandes, Hamid, and Singh (2016) and Gharip and Majid (2017). Since the proper and effective assessment needs respondents to consider, presume and evaluate a variety of variables, it would be difficult for them to respond with limited knowledge. In this setting, the Delphi technique is well adapted as a research method when there is incomplete knowledge of a problem or phenomenon under study (Paliwoda, 1983; Skulmoski, Hartman, & Krahn, 2007).
- iii. The construction sector is a vigorous and dynamic environment in nature, and thus the CEM sector has developed into a practice-driven environment in nature (Ameyaw, Hu, Shan, Chan, & Le, 2016). Many research issues in this field need to tackle the influence of individuals, organisations and society on construction management activities, and the key to addressing these issues must draw on both the collective expertise and experience of experts in this field (Fellows & Liu, 2015). Therefore, the Delphi method is seen to offer a more effective and efficient solution to solve such problems (Hallowell & Gambatese, 2010). As stated by Agumba and Musonda (2013), the Delphi technique is especially useful in addressing the many problems in the construction sector, as it answers the the ‘what can-if’ kind on questions rather than the ‘what is’ kind of questions.
- iv. Although the Delphi technique was developed in the 1950s, it only emerged as the main research method used in CEM research in the last two decades (Hallowell & Gambatese, 2010; Ameyaw, Hu, Shan, Chan, & Le, 2016). The importance of the Delphi technique for CEM research is evident in its use. For

example, a systematic analysis of 88 papers using Delphi technique as a research method published in first-tier CEM journals between 1990 and 2012, Ameyaw, Hu, Shan, Chan, and Le (2016) concluded that the technique was a robust and useful tool for defining, assessing, and forecasting uses in the areas of project planning and design, contracting, labour and personnel issues, and organisational issues in CEM research.

- v. The Delphi technique is commonly used in the CEM research related to CSFs. Examples of the studies included a report by Alaloul, Liew and Zawawi (2016) on coordination of CSFs influencing the performance of building projects in Malaysia; Nasrollahzadeh, Marsono and Tap (2016) on the application of CSFs for the industrialized building system in Malaysia; Lok, Opoku and Baldry (2018) on the design of CSFs for sustainable outsourcing services for facility management in Hong Kong; and Ojoko, Osman, Rahman, and Bakhary (2018) on the evaluation of CSFs for the implementation of industrial building systems in Nigeria.

Therefore, the methodological gaps in the literature have led to the choice of Delphi technique as an appropriate research design to validate the adoption of CSFs for CSR in the Malaysian construction sector. Nevertheless, it should be noted that Delphi technique is not a replacement for other scientific methods, but rather an alternative for complex and intertwined subjects that cross disciplinary boundaries (Grisham, 2009).

3.4 Delphi Technique Overview

The Delphi technique is being increasingly used in many complex areas whereby a consensus needs to be reached, such as in the CEM research. The name 'Delphi' is derived from the ancient Greek temple, Oracle of Delphi. The Delphi technique was originally developed at the Rand Corporation in the 1950s by Olaf Helmer, Norman Dalkey, Ted Gordon and associates under the auspices of the U.S. Air Force at the beginning of the Cold War. Norman Dalkey and Olaf Helmer made the most notable use of this technique in 1963 to forecast the impact of technology on the war (Green, 2014). It was to solicit experts' opinions on the optimal of the U.S. industrial target system and

to estimate the number of A-bombs required reducing the munitions output by a prescribed amount (Dalkey & Helmer, 1963).

Predicated on the rationale that, “two heads are better than one, or...n heads are better than one” (Dalkey, 1972), the Delphi technique is designed as a group communication process that aims at conducting detailed examinations and discussions of a specific issue for the purpose of goal setting, policy investigation, or predicting the occurrence of future events (Rowe & Wright, 1999; Hallowell & Gambatese, 2010; Kim & Yeo, 2018). It used experts’ input in a systematic way using a series of questionnaires with controlled opinion feedback. Hallowell and Gambatese (2010) described the Delphi study as a systematic and interactive research technique for obtaining the judgement of a panel of independent experts on a specific topic.

The key features of the Delphi technique were preservation of anonymity in the expert panel’s response and iteration rounds of the questionnaires. The main benefit of participation in this technique was the ability of individuals to participate in a group of communication processes asynchronously at times and places convenient to them (Linstone & Turoff, 2010). Today, with the development of electronic mail and computer analysis software, the Delphi technique has become more appealing to modern researchers, and successfully applied in many education’s settings (Green, 2014). In particular, according to Hannifin, Brooks, Carroll, Fitzgerald, Gabhainn, and Sixsmith (2007), the Delphi method is useful for complex problems such as:

- i. Precise analytical techniques and exact knowledge are not available and the gathering of subjective opinion, moderated through group consensus, is the only approach available;
- ii. Relevant experts are in different fields and/or occupations and not in direct communication.
- iii. Face-to-face contact is not possible or desirable due to prohibitive financial, geographical or temporal constraints and/or concern regarding democratic participation; and

- iv. Ethical, political, legal, or social dilemmas dominate economic or technical ones.

In addition, Sobaih, Ritchie, and Jones (2012) viewed that the objectives of most Delphi studies include:

- i. Collecting and distilling knowledge from a group of experts;
- ii. Achieving consensus and/or gaining judgement on complex matters where precise information is unavailable to underpin a prediction of the future;
- iii. The reliable and creative exploration of ideas; and
- iv. The production of suitable information for critical decision making.

Meanwhile, Rowe and Wright (1999) characterized the classical Delphi method into four key attributes:

- i. Anonymity – allows the panellists the opportunity to state their beliefs and judgments freely without undue social pressures from dominant or dogmatic other members in the group and is accomplished using questionnaires.
- ii. Iteration – allows the panellists the opportunity to refine their beliefs and judicial decisions without fear of losing face in the eyes of the (anonymous) others in the group and are attained through a number of rounds of questionnaires.
- iii. Controlled feedback – informs the panellists the opinions of their anonymous colleagues and is presented as a simple statistical summary in terms of a mean or median value.

- iv. Group judgment – allows for statistical analysis and interpretation of data.

Compared to conventional approaches, such as surveys and interviews, the strength of Delphi relies on iterative rounds of questionnaires that offer an opportunity for initial feedback, input collection, and dissemination of feedback to participants for further review (Agumba & Musonda, 2013). This method often allows participants to be certified by an expert before the survey process begins. It requires an expert group to communicate freely in order to find a consensus (Tran, Lester, & Sobin, 2014). Research

data on expert opinions are usually obtained using a number of rounds of extensive questionnaires, which include a series of qualitative and quantitative information for analysis.

The analysis findings of each round will then determine the form and content of subsequent questionnaires, and so on until the consensus on the particular issues are attained (Agumba & Musonda, 2013; Alaloul, Liew, & Zawawi, 2015; Ameyaw, Hu, Shan, Chan, & Le, 2016). The Delphi technique is therefore a highly formalized method of communication to extract the maximum amount of unbiased information from a panel of experts (Paraskevas & Saunders, 2012). According to Paré, Cameron, Poba-Nzaou, and Templier (2013), four forms of Delphi studies are widely used, namely:

- i. Classical Delphi – based on the facts to create a consensus;
- ii. Decision Delphi – used for preparation and decision for future directions;
- iii. Policy Delphi – based on ideas to define and differentiate views; and
- iv. Ranking-type Delphi – used for identification and ranking of key factors, items, or other types of issues.

Since this study aimed to identify a list of CSFs for the successful adoption of CSR agenda in the Malaysian construction sector, the ranking-type Delphi was particularly appropriate and useful.

3.5 Procedures of the Delphi Study

In its application in the CEM fields, Hallowell and Gambatese (2010) outlined the general structure of the Delphi process. The pilot study, however, was not included in their plan. It therefore contradicted the suggestions of Skulmoski, Hartman, and Krahn (2007) and Clibbens, Walters, and Baird (2012), who stressed the importance of a pilot study in the Delphi method. Based on the Hallowell and Gambatese (2010) model, the Delphi process in this study were broken down into three main stages including exploratory stage, distillation stage, and utilization stage as shown in Figure 3.2. Pilot study was also included in the distillation stage. It should be noted that the Delphi process

adopted in the current study was consistent with the steps outlined in Figure 3.2 and described in the subsequent sections.

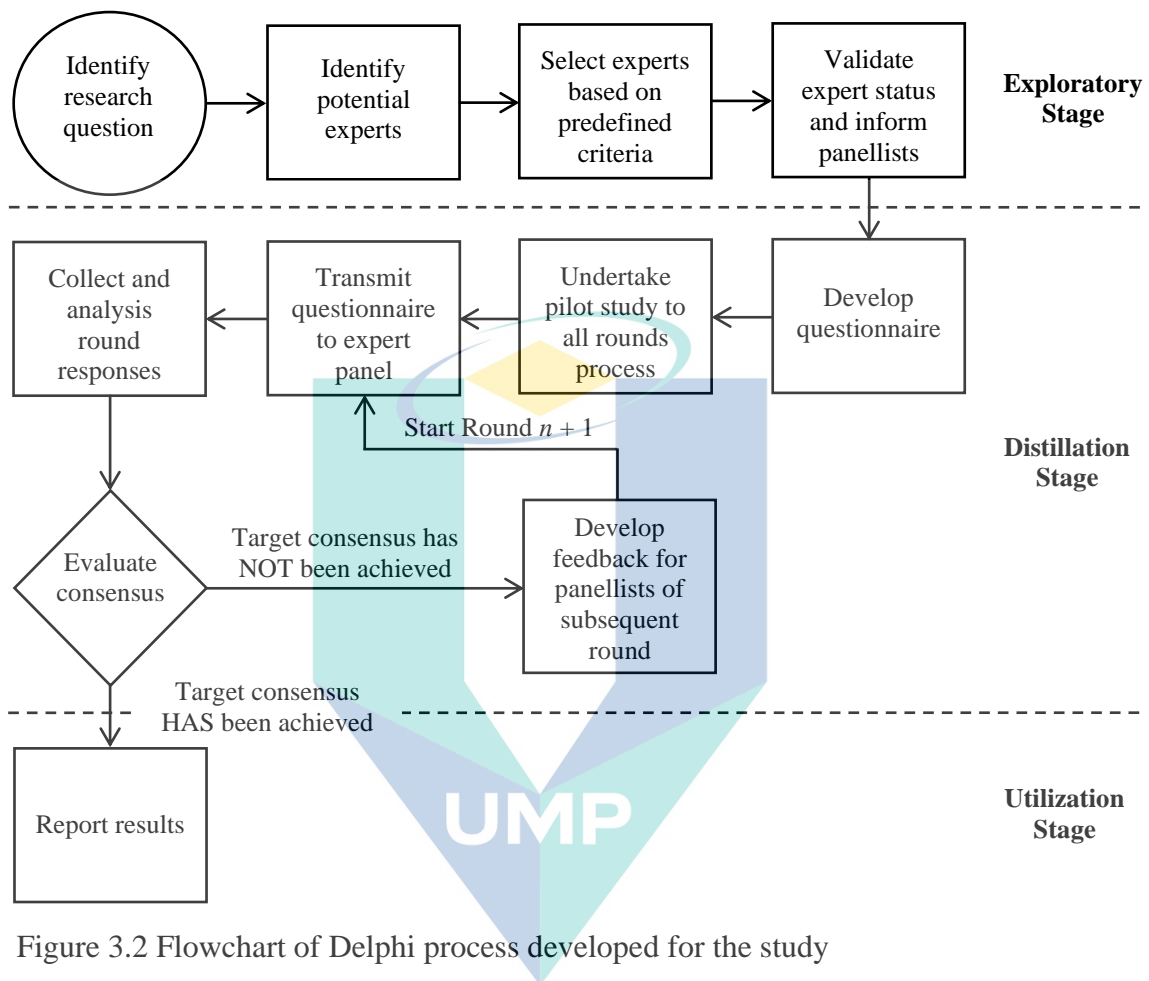


Figure 3.2 Flowchart of Delphi process developed for the study

3.5.1 Identifying Research Question

The success of a research is primarily determined by the clarity of the initial research questions (Saunders, Lewis, & Thornhill, 2014). As discussed earlier, the research question to be answered using the Delphi technique was “What are the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as defined by the Delphi expert panellists?” This question concerns an attempt to identify the key areas that are necessary for the successful adoption of CSR into practice in the Malaysian construction sector.

3.5.2 Identifying Potential Experts

The selection of expert panellists is of critical importance related to the quality of the Delphi study (Zhang, Zhang, & Chen, 2013). The Delphi technique is a group decision-making mechanism, requiring qualified experts to have a deep understanding of the issues under review. Needham and de Loë (1990) suggested two criteria for the selection of qualified experts, such as:

- i. The experts must be representative of the sector or of the sector's experience relating to the subject under review. This criterion is measured in terms of demonstrated education and training, profession and occupation, as well as regional and sectoral affiliation.
- ii. Experts must also have recognised authority or sufficient experience. This is measured in terms of standing within the discipline of the subject under review, standing within a field that is relevant to the subject under review, and experience in applied management and research.

In the context of the current study, the main objective was to identify CSFs for the adoption of CSRs in the Malaysian construction market. As discussed earlier, the CSR phenomenon in the Malaysian construction sector is still in its infancy and underdeveloped (Abdullah, Mohandes, Hamid, & Singh, 2016) and hence the availability of experts is limited. The presence of experts outside the sector might not be appropriate, since their judgment would not be reliable, because the construction sector is differentiated by its specific nature (Hamid, 2016). This also opposes the suggestion made by Needham and de Loë (1990) that the experts should be representative of the sector or of the sector's experience relating to the topic under review. In the case of this study, the Delphi panellists must be experts in the field and members of the Malaysian construction sector. They must also be familiar with the sector and have ample knowledge of it. In addition, Gibson and Whittington (2010) emphasized that best practice research in the construction sector would require an engagement and feedback mechanism between practitioners and academicians. In the light of all the suggestions available, coupled with the nature of the study, two independent panels have been established which include:

- i. Construction sector practitioners (professional engineering consultants and contractors); and
- ii. Academicians.

According to Needham and de Loë (1990), construction practitioners with extensive experience or practical experience and knowledge in particular areas are known as subjective experts. In the meantime, academicians who have done research or teaching in specific fields within the construction sector are known as objective experts. The combination of subjective and objective panels could add a wide range of direct knowledge and experience to the decision-making process (Powel, 2003).

In particular, this study selected the directors or senior officers of construction firms as the construction sector practitioners' expert panellists. It was assumed that they would be able to provide information better than anyone as their personal experience was very important. On the other hand, academicians panel experts have been chosen on the basis of their expertise in CSR or sustainability (environmental management and development, environmental engineering, sustainable highway and others) or construction and project management. They must be involved in research or teaching on topics related to CSR or sustainability or the construction sector as a whole. As such, the criteria for becoming experts in the current Delphi study was that at least three of the following eight criteria should be met:

- i. A minimum five years of work experience in either academic or the construction sector in Malaysia.
- ii. A minimum five years registered as certified professional engineer, professional architect, professional quantity surveyor, or project management professional.
- iii. A minimum qualification for the construction sector practitioners is bachelor's degree and master's degree for academicians from an accredited institution of higher learning.
- iv. An editor or authorship of book or book chapter on the topic of related to CSR, sustainability, or construction sector.

- v. Primary or secondary author of at least three peer-reviewed journal articles on CSR, sustainability, or construction sector.
- vi. Invited to present at a conference focused on the topic of CSR, sustainability, or construction sector.
- vii. Involve in research and teaching on the topics related to CSR or sustainability or construction sector.
- viii. Involve in sustainable development projects such as environmental impact assessment, green buildings, sustainable highway, industrial building systems, and others.

This criterion was consistent with the Delphi study of Agumba (2013) in the identification the leading indicators of the construction health and safety performance improvement, and Hamid (2016) in the development of indicators for construction business success. The criteria for the Delphi panellists for this study was therefore considered representative and accurate.

3.5.3 Selection of Expert Panellists

The first step before selecting experts is to decide how many experts are necessary for the study. Extant literature has shown that the optimal size of the participants for the Delphi study has not been established. In the CEM research, Ameyaw, Hu, Shan, Chan and Le (2016) suggested that the size of the panels between eight and twenty is adequate. On this basis, the study decided to employ a panel size of a minimum eight to a maximum of twenty experts.

In addition, the purposive sampling technique was used to select the expert panellists based on ‘closeness’ to the subject under study (Donohoe & Needham, 2009). The purposive sampling technique or also known as judgment sampling is a non-probability approach that is most effective in a situation where a study needs expert knowledge in a specific field (Etikan, Musa, & Alkassim, 2016). A significant feature of the purposive sampling technique is that there is no need for underlying theories or a fixed number of respondents rather than data saturation (Gentles, Charles, Ploeg, &

McKibbin 2015). The purposive sampling was, therefore, appropriate to the study given that the purpose of the Delphi technique is to obtain expert opinion from the participants (Wright, 2006; Donohoe & Needham, 2009; Polit and Hungler, 2013). Using purposive sampling, respondents were chosen to capture a range of group characteristics based on the assumption that the researcher's knowledge of the population could be used to carefully identify individuals to be included in the survey (Polit & Hungler, 2013). The size of the panel between eight and twenty was therefore considered to be an acceptable representative and adequate for the composition of highly qualified panellists.

The protocol outlined by Okoli and Pawlowski (2004) was reviewed as guidelines for the selection of expert panellists. Nevertheless, this procedure could not be replicated solely on the basis of differences in the nature of the study. For example, in the Knowledge Resource Nomination Worksheet (KRNW), Okali and Pawlowski (2004) described practitioners' experts should be identified on the basis of their relevant literature, including journals and conference proceedings. However, this study was unlikely to follow given the fact that most of Malaysian construction sector practitioners are not involved in either research or presentation of the paper at conferences. Similarly, Okali and Pawlowski (2004) noted that academic experts must be chosen on the basis of the journal list, whereby relatively little research has been done and less papers published on subjects under study in the context of Malaysia. The procedure was therefore slightly modified to match the purpose of the study.

The initial nomination worksheet was created to classify experts before naming them, in order to avoid missing any significant class of experts (Okoli & Pawlowski, 2004). The most appropriate disciplines, organisations and criteria were included in the list to guide who will be the most relevant experts for this study. Each category needs a different approach for the identification of experts. More significantly, experts must be representative of the sector or sector experience related to the subject under study (Needham and de Loë, 1990). Table 3.1 displays the initial nomination worksheet applied for this study.

Table 3.1 Initial Nomination Worksheet

Discipline	Organisation	Criteria
<ul style="list-style-type: none"> • Practitioner <ul style="list-style-type: none"> ○ The Institution of Engineers, Malaysia ○ Malaysian Institute of Architects ○ Royal Institute of Surveyors, Malaysia ○ Contractors' Associations ○ Involving in sustainable development projects • Academic <ul style="list-style-type: none"> ○ Research or teaching on the topics related to CSR or sustainability or construction sector ○ Involving in sustainable development projects 	<ul style="list-style-type: none"> • Engineering consultant firms • Construction firms • Malaysian public universities 	<ul style="list-style-type: none"> • Professional engineer • Professional architect • Professional surveyor • Project management professional • Senior Engineer • Contractor • Owner/Director of the firms • Official websites • Curriculum vitae

A member of the Institution of Engineers, Malaysia or the Malaysian Institute of Architects or the Royal Institute of Surveyors, Malaysia or the Contractors' Associations or who has been involved in sustainable development projects was considered in the selection of initial potential experts for the construction sector practitioners' group. In this context, they must be either from engineering consultants or from construction firms. Their current title must be professional engineer or professional architect or professional surveyor or project manager professional or senior engineer/architect/surveyor or firm owner/director. For academics group, they must carry out research or teaching on topics related to CSR or sustainability or the construction sector, or engage in sustainable development projects, and they must come from Malaysian public universities. The initial potential academic experts were searched from the university's official websites, most of which contained academics' curriculum vitae.

For the selection of experts for construction practitioners' group, a personal networking of the author and supervisors within the Malaysian construction sector was

used to identify the potential experts to be included in the initial nomination worksheet. According to Skinner, Nelson, Chin, and Land (2015), an expert convenience sample should be based on the researcher's knowledge of experts in the field of interest. Meanwhile, the list of prospective academics was taken from the official websites of local public universities. All the identified potential experts were then populated in another worksheet called the potential expert worksheet. In this worksheet, names, discipline, organisation, email addresses, and contact numbers of the potential experts were recorded. In total, twenty potential experts comprising of each ten construction sector practitioners and academicians have been identified.

Table 3.2 displays an example of the potential expert worksheet. However, for this dissertation report, the potential experts were given a fictitious name as shown in the table. For example, IND-1 represented expert number one from the construction sector practitioners' panel, and ACAD-1 referred to expert number one from academicians' panel. It complied with the confidentiality addressed by research ethics policy, under which any published data did not disclose persons, institutions or organisations. It will also remain anonymous, consistent with the attribute of the Delphi technique. The full potential expert worksheet detailed in Appendix B.

Table 3.2 Example of the Potential Expert Worksheet

Expert ID	Discipline	Organisation	Email	Contact No.
IND-1	Engineering Consultant	ABC Consultant	abc@gmail.com	xxx xxxxxxxx
IND-2	Contractor	XYZ Sdn Bhd	xyz@gmail.com	xxx xxxxxxxx
ACAD-1	Senior Lecturer	UZM	_ <u>uzm.edu.my</u>	xxx xxxxxxxx
ACAD-2	Senior Lecturer	UXM	_ <u>uxm.edu.my</u>	xxx xxxxxxxx

Following the suggestion of Okoli and Pawlowski (2004), all the twenty potential experts were contacted by telephone. They were briefly explained about the nature of this Delphi study and mentioned that they had been identified as an expert for the study. Since this step was not to solicited panellists for the final study, the biographical information of each expert was gathered in terms of their qualifications and experiences. In addition, they have also been requested, where possible, to recommend other experts. As a result,

another five construction sector practitioners were suggested by some potential experts along with their contact numbers. Similarly, all them were contacted to gather their background information before documenting in the potential expert worksheet. In the final, twenty-five potential expert panellists were identified and recorded.

3.5.4 Validation of Experts' Status

Once the potential expert panellists were identified, they were ranked on the basis of qualifications and experiences. Two sub-lists of potential experts including practitioners, and academicians were created. Table 3.3 and Table 3.4 include examples of the worksheets on the classification of the potential experts for both the group of practitioners and the group of academicians.

Table 3.3 Example of the Potential Expert Worksheet for Practitioners Group

Rank	Expert ID	Discipline	Qualification	Experience (Year)	Organisation	Contact No.
1	IND-9	Engineering Consultant	Doctorate	30	KTP Consultant	Phone, email
2	IND-6	Engineering Consultant	Master	28	DEF Consultant	Phone, email
3	IND-2	Contractor	Bachelor	35	XYZ Sdn Bhd	Phone, email

Table 3.4 Example of the Potential Expert Worksheet for Academicians Group

Rank	Expert ID	Discipline	Qualification	Experience (Year)	Organisation	Contact
1	ACAD-2	Senior Lecturer	PhD	20	UXM	Phone, email
2	ACAD-5	Senior Lecturer	PhD	18	UZM	Phone, email
3	ACAD-3	Senior Lecturer	Master	16	UZM	Phone, email

Although the targeted panellists for this study were a maximum of twenty, all the twenty-five potential experts were invited to participate in this study. It was to allow a buffer in the case of attrition. In comparison, the purpose of the worksheet in the study of Okoli and Pawlowski (2004) was to determine the priority for an invitation to the study

since a greater number of potential experts were identified. However, in this study, the worksheet was developed mainly for monitoring purposes, as the number of potential experts was manageable. The full potential experts' worksheet for practitioners' group and academics' group was detailed in Appendix C and Appendix D, respectively.

All the potential experts were contacted by telephone, inviting them and asking their willingness to participate in the study. The nature of the study and a brief description of the commitment needed were briefly explained. They were also notified that the study was scheduled to commence in May 2018. Of the twenty-five potential experts, four experts from the construction sector practitioners group declined to participate either because they were not in the country or because they unfamiliar with the topic under study. Five potential academician experts refused to participate due to the workloads. As a result, sixteen potential experts officially agreed to participate in the study, consisting of eleven construction sector practitioners, and five academicians. This panel size was acceptable as the panel size between eight and twenty is sufficient for CEM research (Ameyaw, Hu, Shan, Chan, & Le, 2016).

Following their verbal agreement, the official invitation letter, along with the participation consent form, was sent to the remaining sixteen nominees by email (see the sample in Appendix E). It should be noted that the survey will never begin until all nominees have returned the consent form confirming their commitment to participate in the study. It was to comply with the guidelines on research ethics. Eventually, both nominees returned the participation consent form and were thus officially chosen as Delphi panellists for this study.

It should also be noted that the number of rounds in the Delphi study is one of the important aspects of achieving consensus among panellists through controlled and anonymous feedback and iterative processes (Hallowell & Gambatese, 2010). Nevertheless, there was no clear guideline in the literature on the optimum number of rounds. As a guideline, at least two rounds are needed to allow feedback and revision of the response (Ameyaw, Hu, Shan, Chan, & Le, 2016). Considering that the first round is

a brainstorming round, the Delphi process in this study was limited to a minimum three iterative rounds.

3.5.5 Developing Delphi Questionnaire

In the initial round of the Delphi study, researchers have the option to use either open-ended questions or structured questions or both structured and open-ended questions. Open-ended questions are recognized as valuable to the wealth of information gathered (Powell, 2003; Okoli & Pawlowski, 2004) but may lead to a high level of expert attrition (Hsu & Sandford, 2007). Structured questions, on the other hand, are more oriented and structured to direct Delphi respondents towards the objectives of the study (Skulmoski, Hartman, & Krahn, 2007). They are easy to manage, simple to code and evaluate, comparable and quantifiable (Sarantakos, 2013). Nonetheless, both approaches are acceptable and often used in the Delphi study (Kalaian & Kasim, 2012).

For this study, a combination of structured and open-ended questions in the initial round of the Delphi process was adopted. Using this approach respondents were directed to the topic under study and, in the meantime, they were allowed to freely express their opinion by providing some other factors than that those mentioned in the questionnaire. This was similar to the approach used in the Afshari and Yusuff (2012), Zou and Moon (2014), Hamid (2016), and Hirschhorn (2019) studies.

As discussed in Section 2.8 of Chapter 2, a thorough literature review was conducted to compile a list of potential and relevant critical factors, irrespective of sectors or countries that could potentially have a significant impact on the adoption of CSR by Malaysian construction firms as a proxy. As a result, twelve potential critical factors have been identified and included in the Delphi Round 1 questionnaire. According to Gehlbach, Artino, and Durning (2010), a literature review helps researchers classify survey scales or items that may be used or adapted for the current purpose. Since this study adopted a combination of structured and open-ended questions, open-ended questions section was also provided the end of the structured questions.

The instrument consisted of two parts. Section A was to confirm that the participants are experts in the field of study. It comprised the expert's background

information consisting of personal information, academic information, publication and conference participation, professional experience, and NGO's involvement. Section B was a brainstorming section that contained both structured and open-ended questions. Twelve potential critical factors extracted from the literature review were included in the structured questionnaire. The content of the section was clearly explained, including the brief description of each items.

Participants were instructed to identify the listed factors that they consider as CSFs for CSR adoption in the Malaysian construction sector on the basis of their expert's opinion. In doing so, the appropriate field given had to be ticked. In addition, participants were also asked to list and describe any additional factors that did not listed in the structured questionnaire, but were also considered CSFs for CSR adoption. Participants were given seven days to complete the first round of the Delphi process and returned to the researcher by email upon completion.

3.5.6 Delphi Pilot Study

A pilot testing to all rounds of the Delphi process was performed prior to the recruitment of the actual Delphi study. The goal of the pilot study was to identify any ambiguities that may occur and to improves the feasibility of administration of the main survey. Simon (2011) stated that conducting a Delphi pilot study was a part of the research strategy, aims to resolve some logistical issues prior to the actual study. No data has been collected at this stage.

The pilot study was conducted during the first week of April 2018. A group of three Malaysian construction sector practitioners was purposely chosen as respondents. They have been selected from the author's personal networking within the Malaysian construction sector. All the three experts met the pre-described criteria of being an expert did not participate in the actual study. Since no data were collected, the used of fewer respondents for the pilot study are common and accepted in the Delphi study. For example, Agumba (2013) also employed three respondents to pilot Delphi's instrument in a health and safety performance study in construction projects.

The respondents were emailed the Delphi Round 1 pilot survey questions (see sample in Appendix F). They were asked to review the questions and provide feedback on clarity and relevance of the questions by responding to three questions about the survey such as:

- i. Time to complete the survey,
- ii. The survey instructions accurately described, and
- iii. General comments to improve the survey questions.

Both three respondents reported that they had taken less than 30 minutes to complete the survey questions. With this input, the assertion in the presentation of the survey questions shifted from “This survey should take no more than 45 minutes to complete” to “This survey should take no more than 30 minutes to complete.” It was necessary to give the respondents in the survey their first impression of the actual time they had to spend on completing the survey questions.

One expert claimed that he had to read twice the instructions before he understood how to answer the questions of the survey. For this feedback, the instructions have been rephrased to make it more understandable. The sentence “If you feel that all the items are critical, and then you would select all of them” was included. Another respondent noted that there were somewhat vague and ambiguous meanings of “participate of key stakeholders in the CSR process” and “managerial or internal skills on CSR”. In order to address this issue, the available literature was checked and the meanings reassessed to ensure that the respondents completely understood the items when taking the actual survey.

After refining the Delphi Round 1 questions, the Delphi Round 2 pilot process began. Again, the questions were emailed to the same respondents asking them to review the questions and provide feedback on clarity and relevance of the questions by responding to the three questions about the survey. All the three respondents declared that they had taken less than 30 minutes to complete the second survey questions. As with the first survey questions, amendment the introduction statement of the Delphi Round 2

questions was made. In this round, only a minor comment on the clarity of the instructions and wordings. To accommodate the feedbacks received, the questions were refined including rephrasing the instructions to make it clearer and more understandable. It included giving an example in the instructions such as “If you feel that the CSF 2 is the most contributing factor to the successfully adoption of CSR, then you would rank as 1”.

In Delphi Round 3 pilot process, the questions were emailed to the three respondents. Similar to the previous pilot rounds, experts were asked to review the questions and provide feedback on clarity and relevance of the questions by responding to the three questions about the survey. Consistent with the first and second pilot rounds, both respondents noted that they had taken less than 30 minutes to complete the survey questions, and amended to the actual Delphi Round 3 questions were made. No additional comments were received from the respondents. Further refinements of the survey instrument were after the pilot study were not need.

3.5.7 Transmitting the Delphi Questionnaire

Researchers have a choice on how to interact with expert panellists. At the earlier stage of its development, Delphi surveys used pen and paper-based, and returned to the researchers through “snail mail” (Cramer, 1991). The rapid emergence of electronic mail and computer analysis tools has made Delphi technique more appealing to modern researchers (Green, 2014). For this study, electronic mail was used as a data collection tool. The use of electronic mail was especially beneficial for both researchers and panellists, including a fast turnaround that helps keep interest alive and participation high (Skinner, Nelson, Chin, & Land, 2015).

3.5.8 Consensus Measurements

The primary goal of the Delphi study is to achieve greater consensus among panellists and can be determined by calculating the variance in Delphi panellist responses over rounds (Rowe & Wright, 1999). Consensus measurement is therefore a critical aspect of the Delphi method. The first step before data collection and data analysis is to establish the pre-determined consensus measurements.

Ameyaw, Hu, Shan, Chan, and Le (2016) found that three techniques were widely used to measure consensus among expert panellists in CEM research. The methods used were standard deviation, Kendall's coefficient of concordance, W and Chi-square (χ^2). Since the current study used the ranking-type Delphi technique that produces ordinal level data, the standard deviation does not apply provided that there were no fixed intervals between ranks and no absolute reference point for the calibration of ranks between panel lists (Schmidt, 1997). Meanwhile, the Chi-square (χ^2) most useful for a relatively large sample size (Rana & Singhal, 2015) is opposed to the purpose of this study.

In Delphi Round 1, respondents were asked to select the items they consider to be CSFs for CSR adoption in the Malaysian construction sector. Only the frequency counts and percentages of the items selected as CSFs were calculated. In that situation, Nworie (2011) suggested that a consensus could be achieved when a pre-determined percentage of expert panellists came to an agreement on the issues being studied. In this regard, Olawale and Sun (2015) proposed that consensus would be achieved if the degree of agreement on the factor had achieved a majority, i.e. more than 50%. As a result, the pre-determined criteria for Delphi Round 1 was more than 50% of the items selected by expert panellists as CSFs for the adoption of CSR in the Malaysian construction sector. Items that have met this criterion are deemed to have reached the desired consensus. Respondents were also asked to suggest and describe additional items that they also feel are important to the adoption of CSR. At this point, however, no descriptive statistics were calculated on the proposed new items.

In Delphi Round 2 and Delphi Round 3, respondents were asked to rank in order of importance each of the CSFs that emerged from Round 1. It is therefore necessary to determine quantitatively the ranks of items in the lists (Okoli & Pawlowski, 2004). According to Schmidt (1997), because the data is ordinal level data, it must be evaluated using nonparametric statistical methods such as Kendall's concordance coefficient, W where the real value of W represents the strength of the consensus. Indeed, Kendall's coefficient of concordance, W , is generally accepted as the best application in the ranking-type Delphi (Okoli & Pawlowski, 2004). With this recommendation, the study utilized

Kendall's coefficient of concordance, W technique to calculate the convergence of rankings in Delphi Round 2 and Delphi Round 3.

Kendall's coefficient of concordance, W can be determined either manually or using software such as the Statistical Package for the Social Science Version (SPSS). Mathematical computation can be formulated as follows:

$$W = \frac{12S}{m^2(n^3 - n)} \quad 3.1$$

Where, m is the number of experts, n is the total number of CSF, and S is the sum of squared deviations, defined as follows:

$$S = \sum_{i=1}^n (R_i - \bar{R})^2 \quad 3.2$$

R_i is the total rank given to CSF i and \bar{R} is the mean of these total ranks, defined as follows:

$$R_i = \sum_{j=1}^m r_{i,j}; \bar{R} = \frac{1}{2} m(n + 1) \quad 3.3$$

In interpreting the Kendall's coefficient of concordance, W , Schmidt (1997) provided a comprehensive guidance of the principles to be followed. The value of W varies from 0 to 1, where 0 indicates no consensus, and 1 indicates full consensus. As shown in Table 3.5, the value of W was interpreted in various ways, 0.7 suggesting a strong agreement, while 0.1 referred to a very weak agreement.

After calculating the concordance for each round, the W value was used to determine how to continue with the ranking. A W value of 0.7 or greater that indicates a satisfactory agreement and will consider the ranking process to be completed. At the other hand, if the W value is less than 0.7, the ranking iteration process will be continued until the W value is 0.7 or higher. Upon completion of the ranking iteration process, mean

rankings for each item were used to determine the final ranking (Okoli & Pawlowski, 2004). In this sense, the nearest is the mean ranking value to 1, the higher is the ranking of the item.

Table 3.5 Interpretation of the Kendall's Coefficient of Concordance, W

W	Interpretation	Confidence in Ranks
0.1	Very weak agreement	None
0.3	Weak agreement	Low
0.5	Moderate agreement	Fair
0.7	Strong agreement	High
0.9	Unusually strong agreement	Very high

Source: Schmidt (1997)

3.5.9 Data Collection Procedure of the Delphi Study

Schmidt (1997) outlined three distinct phases in the ranking-type Delphi data collection. These include the discovery issues, the determining the most important issues, and the ranking the issues. Schmidt (1997) explained that in the discovery issues phase, i.e. in the first round Delphi process, panellists should be initiated to provide as many issues as possible. This helps to optimize the opportunity to uncovering the important issues. In order to determine the most important issues, researchers must compare the responses received from the participants and ranked the issues in an order of importance. Every participant will then be presented with a randomly ordered, condensed list of issues that achieved consensus from the first round of the Delphi process. In the final step, i.e. the ranking of the issues, the researchers would organize the items in the list in random order, and the respondents were asked to rank all the issues. Data collection is terminated when a strong consensus is reached as a result of the ranking process. If no consensus is reached, further rounds will be needed until a consensus is reached. Nevertheless, the method was slightly modified to reflect the nature of this study. Both structured and open-ended questions were used in this study compared to Schmidt (1997), who used only an open-ended questionnaire.

The Delphi Round 1 questionnaire (see Appendix G) along with the Delphi Introductory Process (see Appendix H) were sent by email to the respondents who officially agreed to participate in this study. The order of questions was randomized for each respondent. First, they were asked to fill out their background details in the table given. They were then required to evaluate the items listed on the basis of their experience and expertise, and to select the items they feel to be CSFs for CSR adoption in the Malaysian construction sector by ticking the appropriate given field. A brief description of each item was provided. In addition, respondents were also asked to provide and describe other items not outlined in the survey that they consider to be CSFs for CSR adoption in the Malaysian construction sector.

After receiving of all the responses to the questions from the respondents, the documents were checked to confirm their appropriateness. Three analyzes were then carried out. First, the personal information of each respondent has been checked to ensure that they comply with the pre-described criteria of being an expert. Second, the structured survey questions were evaluated to assess the percentage of each of the items chosen by the respondents as CSFs. Items chosen by respondents for more than 50% will remain in the chart. Items selected by 50% and fewer of the respondents will be excluded from the list. It fulfilled the pre-determined consensus criteria, which is that more than 50% of respondents selected the items as CSFs for CSR adoption in the Malaysian construction sector. Finally, the open-ended section was checked to determine if any additional items suggested by respondents. All the additional items have been carefully checked on the basis of the reasons given by the respondents and the evidence in the literature. Decisions were then taken either to accept or to reject the proposed items. All results have been tabulated in the table and valid items were included in Delphi Round 2 questionnaire.

In Delphi Round 2, the questionnaire (see Appendix I) was sent to the respondents who replied to the Round 1 survey. The order of questions for each respondent was also randomised. In this round, respondents were asked to carefully review and rank the listed CSFs in the order of importance. Rank 1 was the most significant CSF for CSR adoption in Malaysian construction firms or *vice versa*. A brief description of each of the items listed was also given to the guided respondents. Until all the questions were returned, a descriptive analysis was carried out with the aid of the Social Sciences Statistical Program

Version 20.0 (SPSS 20.0) software. The analysis was focused on group ranking, mean and median, and Kendall's coefficient of concordance, W . Kendall's coefficient of concordance, W was used to measure the strength of the consensus. If the W value found to be 0.7 or greater, the ranking process was completed. On the other hand, if the W value less than 0.7, the ranking iteration process has been continued until the W value is 0.7 or greater. All the findings were tabulated in the table.

In Delphi Round 3, the questionnaire (see Appendix J) was sent to the respondents who replied to the Round 2 survey. Again, the order of questions for each respondent was randomised. This round was regarded to be the controlled feedback process of the Delphi study. In this round, respondents were given the opportunity to revisit their previous rankings by considering the views of other respondents. Respondents were asked to re-rank the CSFs if they wished. To guided respondents, the collective group ranking, mean, median, and respondents' current ranking were provided. A brief description of each of the item listed was also given as a guide.

A descriptive analysis with the aid of the the Statistical Package for the Social Science Version 20.0 (SPSS 20.0) software was carried out upon receiving of all responses. Similar to Delphi Round 2, the analysis focused on group ranking, mean and median, and Kendall's concordance coefficient, W . Consensus was greatly reached if the W value was 0.7 or higher and the iteration process would end after this round, because no more benefit would be gained from further Delphi rounds. If the W value is less than 0.7, the ranking iteration process will continue to the next round until the W value is 0.7 or higher. Both results have been tabulated in the table. It should be noted that the verification, generalization, interpretation and conclusion of the findings can only take place after the consensus has been reached.

3.5.10 Data Analysis Plan of the Delphi Study

In all of the Delphi rounds of this study, the data generated by the respondents were evaluated in order to produce reliable findings and respond the research question. Data analysis in the Delphi method may include both qualitative and quantitative data (Hsu & Sandford, 2007). Nevertheless, analytical techniques for the Delphi study are not directly linked to the method, but should be selected on the basis of the research goal, the

design used and the type of data collected (Brady, 2015). As stated earlier, both structured and open-ended questions were adopted in the initial Delphi process. The data thus emerged as quantitative and qualitative data.

A descriptive analysis of the structured questions in Delphi Round 1 was performed in terms of frequency counts and percentages. The data were then encoded into the response breakdown structure worksheet in an Excel format specially created for this study (see sample in Appendix K). The coding structure has made it possible to isolate and distinguish the responses received from the respondents on each of the items asked. As structured questions aimed at identifying the most relevant CSFs for CSR adoption in the Malaysian construction sector, the frequency counts and percentages of each item selected by the respondents as CSFs were calculated. The percentage measure was used to determine the degree of consensus of each element.

Thematic analysis was used for narrative information, provided that this method has been widely recognized in literature as the most useful technique for qualitative Delphi studies (Dalkey & Helmer, 1963; Linstone & Turoff, 1975). Following the process suggested by Brady (2015), common themes for the additional items suggested by the respondents were identified and grouped into thematic categories. In addition, demographic data were analysed to describe the characteristics of the respondents. Since the questions in Delphi Round 1 were in the form of ordinal variables, the frequency counts and percentages were used to explain the distribution of the variables. Throughout the data analysis, items that achieved consensus together with the valid additional items were included in Delphi Round 2 questions.

Delphi Round 2 data were comprised of the respondents' rankings of the items in order of importance. The data were initially encoded into the response breakdown structure worksheet as described above and transferred to the SPSS 20.0 software for further analysis. Because this Delphi Round 2 utilised a ranking-type Delphi technique that produces ordinal level data, it was analysed in term of group ranking, mean and median, and the Kendall's coefficient of concordance, W . The group ranking, mean and median, and current individual ranking were then included in Delphi Round 3 questions.

Delphi Round 3 data were comprised from the respondents' new rankings of the items in order of importance. Similar to the Delphi Round 2, the data were initially encoded into the response breakdown structure worksheet before being transferred to the SPSS 20.0 analysis software. Again, the data were evaluated in term of group ranking, mean ranking, median, and the Kendall's coefficient of concordance, W . Kendall's coefficient of concordance, W was used to determine the degree of consensus. When the W value has been found to be 0.7 and greater, the iteration round will end. The mean ranking of each item was used to compute the final ranking of the CSFs. The nearer the mean ranking to value 1 was the most appropriate CSFs for CSR adoption in the Malaysian construction sector.

The primary research question concerned addressing the success measures for a successful adoption of CSR agenda in the Malaysian construction sector. To respond to this broad question, the theory of CSFs was used to underlying the most managerial key activities needed to the successfully CSR adoption which led to RQ1. The CSFs with the highest consensus have been used to answer this question.

3.5.11 Reporting the Delphi Results

The need for a consistent and appropriate approach to reporting results is to provide easily understood for readers. Following the suggestion of Schmidt (1997) on how to present the ranking-type Delphi results, this study reported the results including the following criteria:

- i. Presented in the format of the tables in order to make the results easier for readers to understand.
- ii. The demographics background of respondents
- iii. The number of respondents for each Delphi round.
- iv. The response rate for the initial call for participating of respondents.
- v. All group ranks, mean ranks, median ranks and percentage of agreement on each item, and other descriptive statistics.

- vi. The final group ranks, mean ranks, and median ranks for each round, along with Kendall's coefficient of concordance, W in the reanalysis process.
- vii. The total number of issues generated in Delphi Round 1.
- viii. The strength of support for the issues that were selected as the pared list at the end of Delphi Round 2.
- ix. The level of confidence in the final ranking.
- x. The round-by-round levels of consensus.

3.6 Establishing Dependability in the Delphi Study

Dependability (often referred to as reliability in quantitative research) refers to the degree to which data collection techniques have yielded consistent results (Saunders, Lewis, & Thornhill, 2014). The literature review did not show any evidence suggesting the stated measure of dependability in the Delphi study. When resolving the issues of dependability, three methods that are usually used to increase the quality of the Delphi study have been introduced.

First, multiple data sources have been used in the sense that the data sought are from construction sector practitioners and academicians. The respondents participated in this study were consultant engineers, senior engineers, senior architect, senior town planner, contractors, and also senior lecturer. Hence, this study used multiple sources of data in which information was obtained from different backgrounds of respondents. This approach has made it possible to assess if different groups of experts have different information, thus improving the dependability of the study (Gill, Gill, & Roulet, 2018).

Second, the Delphi method adopted was followed by a sound research practice suggested in the literature. The use of rigorous procedures for systematic sampling, data collection and data analysis may resolve the issue of dependability (Hanson, Balmer, & Giardino, 2011). In addition, three papers were published in the Scopus indexed journals during the course. It should be presumed that the procedures adopted in this study have been accepted and can easily be duplicated by future researchers in the conduct of a

similar approach, thereby addressing dependability problems more explicitly (Shenton, 2004).

Third, the Delphi technique was used given that this method was robust and rigorous, and proven as an effective approach to solving complex problems in the construction sector (Tran, Lester, & Sobin, 2014; Ameyaw, Hu, Shan, Chan, & Le, 2016). In addition, pre-described criteria have been used in the selection of respondents to ensure that they are experts on the issue under study. The robust and rigorous nature of the Delphi technique could therefore address the issue of dependability on its own (Hanson, Balmer, & Giardino, 2011). By adopting these three measures, the issues of dependability were well addressed in the study.

3.7 Establishing Validity in the Delphi Study

In this study, data were gathered from sixteen expert panellists. According to Hasson, Keeney, and McKenna (2000), the use of multiple respondents would increase validity, given that many people are less likely to arrive at a wrong decision than a single person. In addition, respondents were chosen on the basis of pre-described criteria and on a voluntary basis. Respondents were also experts in the area and thus knowledgeable in the topic under investigation and thus addressed content validity (Mengual-Andrés, Roig-Vila, & Mira, 2016). In addition, three iterative rounds of the Delphi process have been implemented. According to Hasson, Keeney, and McKenna (2000), the concurrent validity of the Delphi process will be improved by conducting a minimum of three successive rounds.

In addition to the aforementioned measures, three additional measures were used to improve validity. First, supervisors were consulted to comment and verify the readability, content, ease of answer and rating scale used in each round of the Delphi questionnaire. On the basis of the feedback received, the instrument was improved to be more detailed, including simpler questionnaires, revised wording and instructions, and given descriptions of each item asked. Second, an expert with established research experience in the Delphi method and the construction sector was consulted to verify the content and structure of the Delphi Round 1 questionnaire. The expert did not participate in any aspect of the study except in the exercise of validity of the material. Just one

comment has been received. The expert found that the description of each object was too long. Following this suggestion, the descriptions have been updated to make it more meaningful. Lastly, a pilot study of three construction sector practitioners who meet the pre-determined criteria was performed to address the feasibility of the Delphi process and technical issues such as time to complete the survey, comprehensive survey instructions, and general comments to enhance survey questions. Full findings of the pilot study have been discussed in Section 3.5.6 above. No further refining of the Delphi questionnaire was made after the pilot test. The validity problems were therefore well addressed in the study.

3.8 Minimizing Biases in the Delphi Study

Unlike the conventional approach in which the researcher presents the main bias, the sources of bias in Delphi studies are the experts' own opinion (Alaloul, Liew, & Zawawi, 2015). Because the primary mechanism for data collection in any Delphi study is based on expert observations, the success of the Delphi process depends on the unbiased judgment of the experts. It is therefore important to properly develop the Delphi questionnaire, which focuses on removing the potential for prejudices of the participants' responses, since cognitive shortcuts that could lead to incorrect judgments or conclusions may potentially lead to imprecision of judgment (Harlacher, 2016). To mitigate judgment-based bias in CEM studies, Hallowell and Gambatese (2010) proposed implementing one or more of the following three classes of judgment, including:

- i. **Diagnostic** – diagnostic judgment requires the use of intuition, visualization, organisation and structuring of facts and interpretation of relationships to draw a conclusion.
- ii. **Inductive** – inductive reasoning involves the synthesis of evidence and information from a variety of sources. This can be done by using an individual's awareness of signs and evidence to draw conclusions. It is directly related to the experience, observations and ability of the individual to recognize evidence.
- iii. **Interpretive** – interpretive reasoning includes the interpretation of patterns, spatial relationships, correlations and causal relationships. Individuals who can

effectively reason by interpretation must be able to critically examine, evaluate and establish a meaning for a specific scenario.

In the current Delphi study, respondents were chosen on the basis of pre-described criteria to determine if they were experts in the topic under review. As they were experts in the field of study, their judgments would be accurate. In addition, they have been selected on a voluntary basis, which means that they have an interest in the research subject and are therefore able to deliver meaningful information. As such, the inductive judgement of bias was well addressed in this study (Hallowell & Gambatese, 2010).

In addition, Hallowell and Gambatese (2010) successfully implemented six additional bias control measures in their study. This involve randomizing questions in the survey, providing explanations for controlled feedback, performing multiple rounds of surveys and maintaining anonymity, allowing independent probability and severity ratings, reporting medians, and excluding members who have experienced recent events.

Following these recommendations, the order of questions for each respondent in each round of the Delphi process was randomized. A new randomized order has also been generated for each respondent in each round of the Delphi process. In other words, each respondent received different sets of questionnaires in terms of the order of the items and was sent randomly to the respondents. Respondents were also asked to provide a brief explanation or reasoning for the newly proposed items in Delphi Rould 1.

In the controlled feedback process of Delphi Round 3, the collective group ranking, mean, and median were provided for the evaluation and consideration by respondents. To achieve a high degree of consensus among respondents, the current Delphi study was conducted in a minimum of three iterative rounds. Efforts have also been made to maintain anonymity. All results were presented in terms of the collective group ranking, mean, and median. This would prevent the influence of any dominant respondent.

The Delphi questionnaire in this study was designed to allow respondents to consider the probability and severity values for each item. In this sense, collective means ranking and median were provided in the controlled feedback process of Delphi Round

3. Results in the Delphi Round 3 process have been reported as median, provided that the median response is less likely to be influenced by bias.

Finally, in the compilation of biographical information processes for the selection of respondents, they were asked about their background, including the same study they had undergone. It was verified that none of the respondents had similar research experience with the current study.

Through following these methods, this research can either completely or partially eradicate judgment-based bias such as as collective unconscious, contrast, neglect of probability, von Restorff, myside, recency, primacy, and dominance (Hallowell & Gambatese, 2010). As shown in Table 3.6, the issues of judgment-based bias have been well examined in this study.

Table 3.6 Bias Reduction Resulting from Control Measures in Delphi Process

Control	Bias							
	Collective unconscious	Contrast	Neglect of probability	Von Restorff	Myside	Recency	Primacy	Dominance
Randomise question order		**					**	
Include reasons in feedback	*			*	*			
Iteration and anonymity				*				**
Separate probability and severity ratings			**					
Report median		*		*	*	*	*	
Remove members who experienced recent events						**		

Note: *Partially removal **Completely removal

Source: Hallowell and Gambatese (2010)

3.9 An Organisational Case Study

An organisational case study was used to assess the readiness of Malaysian construction firms to adopt CSR in operation. The purpose was to assess the gap that exists in the selected construction firms in relation to their current practice on the validated CSFs that emerged from the Delphi study. The qualitative research methods used for this study are further described below, including purposive sampling, structured interviews, and systematic and concurrent data collection and data analysis procedures. Specifically, narrative analysis was used to interpret and classify the data meaning. This approach was based on the individual knowledge of their experiences and the ways they describe them by their subjective interpretations (Saunders, Lewis, & Thornhill, 2014).

3.9.1 Selection of Participants

The selection of participating firms was made to represent firm operating in the Malaysian construction sector. The study targeted a sample of directors or owners of local construction firms in the State of Pahang. As the purpose of this qualitative study was to assess the level of readiness of firms to adopt CSR, it was necessary for participants to have an intuitive knowledge of the firm's vision, strategic direction and financial status. In other words, they should be the policy-makers of the firms. As stated earlier, the level of readiness of firms to adopt CSR was assessed against the validated CSFs for the adoption of CSR, and it was therefore necessary to select respondents from firms that had the intention of adopting CSR in practice. Nevertheless, it was difficult to know which firms planned to incorporate CSR in their practice since there were no official documents on it.

Therefore, a purposive sampling technique was adopted as a method for the selection of participants. Purposive sampling technique is typically used in qualitative researches (Taherdoost, 2016). Samples are drawn on the basis of subjective judgements which the researcher assumes would represent the population (Tashakkori & Teddlie, 2003). The samples are chosen based solely on the researcher's knowledge and credibility (Vehovar, Toepoel, & Steinmetz, 2016). Through the author's personal networking within the Malaysian construction sector, ten local construction firms have been contacted asking if they intend to incorporate CSR in practice.

As a result, only five firms have declared that they intend to adopt the practice and have agreed to participate in the study. At the meantime, the participation consent form was then sent to each participant via e-mail (see sample in Appendix L). These five local construction firms were officially selected to assess their current practices on the validated CSFs. The selected firms include two professional engineering consulting firms and three contractors. Based on the profile, all firms were categorized as SMEs since they currently have fewer than 75 full-time employees (Department of Statistics Malaysia, 2017). It was consistent with the report that construction SMEs dominating the construction sector in Malaysia (Department of Statistics Malaysia, 2017). Once agreed to participate, the basic background data of the firms were collected as shown in Table 3.7.

Table 3.7 Profile of Participating Construction Firms

No.	Nature of Business	Years in Business	Number of Employees	Average Annual Turnover (RM million)
1.	Engineering Consultant	14	< 10	5 - 10
2.	Engineering Consultant	10	< 5	1 - 5
3.	Contractor	22	< 5	> 50
4.	Contractor	19	< 5	5 - 10
5.	Contractor	16	< 30	> 50

The number of participants, each one from each firm was considered to be adequate because a phenomenological research strategy was adopted which effectively studied a limited number of subjects (Creswell, 2014). As noted by Fink (2000), a large number of respondents may be expected to hinder the ability of the researcher to get "in-depth" and it could miss the opportunity to gain valuable information from of each respondent. Moreover, the number of samples represented a considerable proportion of the population, provided that the majority of businesses operating in the Malaysian construction sector were SMEs, and their activity does not vary significantly between firms.

3.9.2 Role of the Researcher

Because qualitative research is an interpretive research, researcher was the primary source of the instrument, data collection and analysis (Creswell, 2014). Researchers' biases, beliefs, and assumptions can also intervene the data analysis (Strauss & Corbin, 1998). In view of the author's background in the Malaysian construction sector, any professional relationship that may exist between the author and the participants has been acknowledged. Nevertheless, the author had no business relationship or supervisory or instructor relationship with any of the participants.

In an effort to minimize any personal bias against the results of this study, a Master's degree candidate was used as a member check after interviews to improve the credibility, validity and transferability of the results of the study (Lincoln & Guba, 1985). During each interview, a summary of the information provided by the participants was restated and participants were asked to confirm the accuracy of the information provided. It included detailed and relevant quotes from participants to support the findings of the study (Maxwell, 2005).

In addition, data triangulation has been used as a way to increase the credibility of the study. In this study, data triangulation was addressed by conducting interviews in different places. For example, two interviews were conducted at the café. According to Burkholder, Cox, and Crawford (2016), when data is obtained in a number of ways, there would be significantly less risk of bias in the information collected. Data would also be more accurate and the techniques of data analysis would have eliminated bias.

3.9.3 Qualitative Interview Data Collection Procedure

As stated earlier, this study adopted phenomenology as a strategy of inquiries. As a consequence, the qualitative interview protocol and field notes were used as primary sources of data collection. Interviewing is the most common method for data collection in qualitative research (Jamshed, 2014). Given that the qualitative interview in this study was to explore the level of readiness of the Malaysian construction firms, assessed against the validated CSFs, structured and open-ended interviews were adopted. The questionnaire consisted of a standardized set of interview questions relevant to the CSFs

that emerged from the Delphi process. It was intended to ensure a common approach between interview subjects. In fact, asking participants the same questions helped to maximize the amount and consistency of information obtained from each interview and is regarded as interviewer-administered questions (Saunders, Lewis, & Thornhill, 2014). However, most of the interviews ended with a few open-ended questions to capture more detail information, for example, ‘Can you describe further?’

A face-to-face interview was conducted with each participant. The interviews were pre-arranged, and participants were contacted to determine the time and location for the interview. The pre-described interview guide was followed when conducting the interviews (see Appendix M). In the first step of the interview process, it is necessary to have a good relationship with the participants and to demonstrate familiarity with the topic. Following recommendations from McGrath, Palmgren and Liljedahl (2019), participants were reminded of the purpose of the study, the research protocols, the anticipated benefits, their right to withdraw from the study at any time, and the protection of confidentiality. In addition, the author has also presented himself as a Master’s degree student at Universiti Malaysia Pahang.

Upon permission from the respondent, the interviews were audio-recorded as one of the means of controlling bias and producing reliable data for analysis (Saunders, Lewis, & Thornhill, 2014). It allows the interview outcomes to be transcribed verbatim in order to defend against bias and offers a definitive record of what has been and has not been said (Gill, Stewart, Treasure, & Chadwick, 2008). In addition, ‘field notes’ were also taken during and immediately after each interview in order to provide back-up if the audio recording does not work and addresses the question of the trustworthiness of the data (Saunders, Lewis, & Thornhill, 2014). Following the suggestions of Saunders, Lewis and Thornhill (2014), the topic addressed in the field notes included the location of the interview, the date and time of the interview, the setting of the interview, background information of the participants and an immediate impression of how well the interview went. In order to ensure complete and genuine anonymisation of the data, the contextual data or field notes were kept separately from the interview transcripts.

3.9.4 Data Analysis Plan for Qualitative Interview

In normal practice, qualitative data analysis is conducted concurrently with gathering data, making interpretations, and writing reports. However, according to Creswell (2014), an ideal situation is to blend the general steps within the specific research strategy as illustrated in Figure 3.3.

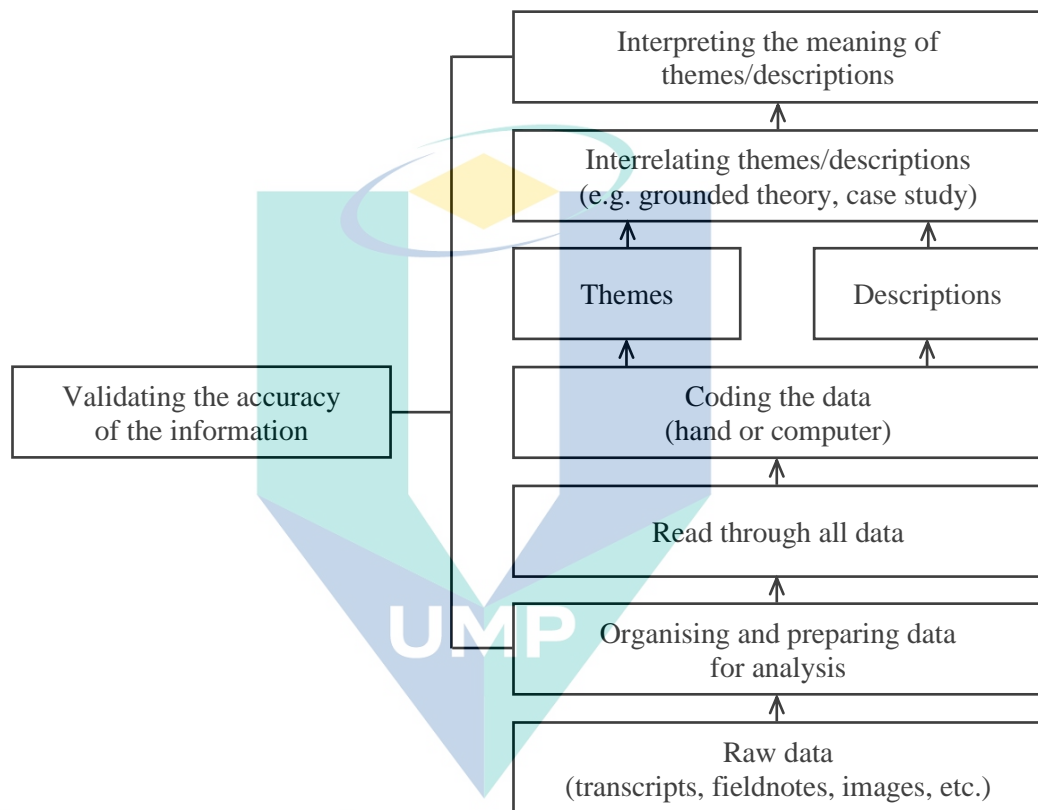


Figure 3.3 Data analysis in qualitative research

Source: Creswell (2014)

Following this recommendation, the data analysis for this study was carried out in the following steps. First, the research data was organized and prepared. It was accomplished by transcribing interviews, typing field notes, and making arrangements for different types of participants. Second, the transcripts of the interview have been checked multiple times in order to get a general idea of the information and to reflect on its overall meaning. Third, the interview transcripts were encoded by segmenting sentences into groups and labelled with related terms. In this process, the transcripts have gone back and forth to find the most descriptive wording for the questions asked, and to

compile the data material for each group in a table, and to perform a preliminary review. Forth, the coding process was used to generate a description of the themes for analysis. Fifthly, a narrative passage was used to express the findings of the analysis. Finally, an interpretation of the data was made and the conclusions were concluded.

3.10 Establishing Trustworthiness in the Qualitative Interview

Lincoln and Guba (1985) argued that the trustworthiness of a qualitative research study was essential in evaluating its importance. In order to develop trustworthiness in qualitative research, Lincoln and Guba (1985) introduced four requirements, including credibility, transferability, dependability, and confirmability.

Credibility (often referred to as internal validity of quantitative research) refers to the accuracy of the findings or the truth of the researcher's analysis and presentation of the evidence (Polit & Beck, 2012). The credibility of qualitative studies is enhanced when participants or reviewers of the study recognize the findings by reviewing the analyzing of data and can interpret the truth of the data (Lincoln & Guba, 1985; Cope, 2014). The participants in this study were drawn from the directors or owners of the construction firms. Because they were the firm's decision makers and had an innate knowledge of the firm's vision, strategic direction, and financial status, their outcomes would demonstrate the true facts of their firms that pointed to the truth of the findings of the study. The results of the study were therefore considered to be aligned with reality, thus ensuring credibility (Shenton, 2004).

In addition, a triangulation technique could also be used to enhance credibility (Lincoln & Guba, 1985). While there were four specific forms of triangulation, such as data triangulation, investigator triangulation, theory triangulation, and methodological triangulation (Denzin, 1978), researchers have the option of using only one type of triangulation or a combination of several forms of triangulation depending on the nature of the study (Nøkleby, 2011). The study embraced data triangulation as a way to increase the credibility. Data triangulation is a process that involves approaching a variety of data sets, from different times, different locations or different peoples, within the same methodological approach (Saunders, Lewis, and Thornhill, 2014). Therefore, this study

involved the collection of data through various sampling techniques, including at different times, in different contexts and from different participants. As such, credibility of the data collection could be expected.

Transferability (often referred to as external validity in quantitative research) explained how the information produced by the study can be applied to individuals who are not involved in the study and how readers can correlate the findings with their own experiences (Cope, 2014). In order to demonstrate transferability, this study attempted to establish a well-described analysis of findings that may be immediately put into practice by Malaysian construction firms. Using a thick summary of the CSFs in the analysis (Hasson & Keeney, 2011), a full database was provided to enable the transferability of judgements by others. Although this study focused on the adoption of CSR in the Malaysian construction sector, the established CSFs may also be transferred to other sectors or countries. Beyond business organisations, governments and academic institutions or industry decision makers, the findings can be considered, in particular, in promoting the CSR agenda or development programs that adhere to the Malaysian construction sector way forward.

Dependability (often referred to as reliability in quantitative research) refers to the constancy of data over similar conditions (Polit & Beck, 2012). To improve dependability, Lincoln and Guba (1985) advised the study of phenomena to used accurate and sufficient documentation of changes, unexpected occurrences, and the like. In this regard, the author has regularly checked the survey and participants' responses during the analysis to ensure that they were consistent with the problem statement, the research objectives and the research questions (Newman & Covrig, 2013). In addition, all the changes made have been documented in the research notes.

Confirmability (often referred to as objectivity in quantitative research) refers to the ability of the researcher to show that the data is the actual response of the participants and not the bias or opinion of the researcher (Polit & Beck, 2012). According to Cope (2014), confirmability can be demonstrated by explaining how conclusions and interpretations have been drawn and exemplifying that the results have been extracted directly from the evidence. In this study, confirmability issues have been addressed

through the collection of rich quotes from participants describing each evolving theme. The data were also continuously compared with the literature to counter biases. This was achieved by searching the literature for descriptions of the phenomenon, obtaining different perspectives, presenting negative or contradictory facts, and testing and re-checking data (Creswell, 2014).

3.11 Ethical Considerations

Saunders, Lewis, and Thornhill (2014) referred to research ethics as an appropriate behaviour of the researcher in relation to the rights of those who become or are affected by the study. This study followed the recommendations of Saunders, Lewis, and Thornhill (2014) to address ethical issues. In order to respect the privacy of the participants, all the identifiable information of each participant was kept at a safe location. When the participants agreed verbally to participate in the Delphi study, the official invitation letter and the participation information of the Delphi study were sent via email. An attempt has been made to ensure that all information provided to the participants is easily understood as to allow them to assess the risks and benefits before agreeing to participate. The purpose, goals, nature of the study, estimated time to complete the study, and expectations of the study were outlined in the information consent form. The document included a statement that allowed participants to contact the author for any clarification or further information needed on the study. In doing so, contact numbers and email addresses of the author and supervisors were given to the participants. The voluntary nature of participation in the study and the freedom to withdraw partially or entirely from the study at any time have also been outlined.

Participants were also notified that they would not be compensated for participating in the study. While there were no physical risks or threats to participate in the study, there were minimal risks that did not exceed the level that participants that face in daily life. Confidentiality of the study in the sense that all comments and responses were anonymous and treated confidentially, and data from this research published only as a whole were also highlighted. Finally, the participants were asked to fill out the declaration of concern to confirm that they agreed to participate in the study. Only those participants who have completed the statement of concern have been sent questionnaire.

With regard to the case study, interviews were performed only with participants who agreed to participate in the study. Each participant was clarified on the voluntary nature of the participation and on their right to withdraw partially or entirely from the process at any time during the interview. The confidentiality and anonymity of the information provided by the participants were maintained and retained at a secure location. In addition, interviews were conducted in the best way to avoid embarrassment, stress, discomfort, pain and harm to participants. Finally, all responses received were treated anonymously and all data were published in the aggregate only in such a way that there were no risks and no effects on participants.

3.12 Chapter Summary

This chapter described the selection and rationale of the research methods used in this study. The study was conducted in two stages in order to address the two research questions. In the first stage, the ranking-type Delphi method was adopted to respond the first research question. The aim was to identify and validate CSFs for the adoption of CSRs in the Malaysian construction sector. After verification of the CSFs, the study continued with the organisational case study to resolve the second research question. This was achieved by measuring the level of readiness of Malaysian construction firms to adopt CSR in practice as measured against the validated CSFs. The research design for both methods, including the procedures undertaken, the selection of participants, the handling of research quality issues, the data collection process and the data analysis plan were also detailed. Ethical issues have also been discussed in this chapter.

In summary, the Delphi method has been performed to a minimum of three iteration rounds. Sixteen expert panellists, including eleven construction sector practitioners and five academicians who comply with the pre-determined status of experts, have been agreed to participate and were officially appointed as respondents. The Delphi Round 1 process has only begun once the informed consent form has been obtained from each expert. This round was a brainstorming process consisting of both structured and open-ended questions, and the consensus was achieved if 50% or greater respondents choose the items as CSFs for CSR adoption in the Malaysian construction sector.

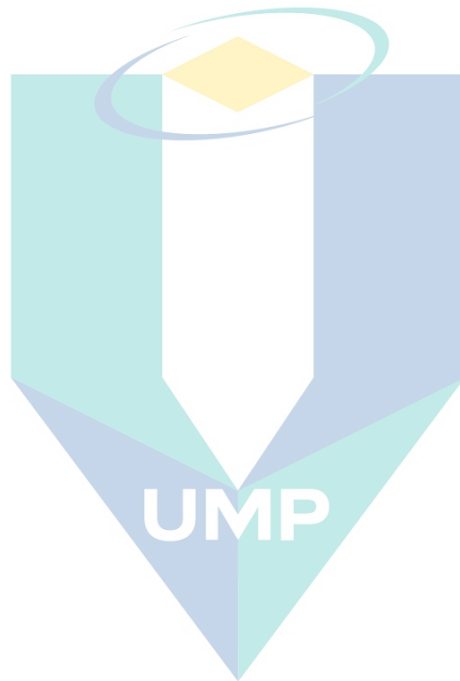
Thematic analysis was used to categorising and sorting the additional items suggested by the respondents. The additional items suggested by expert panellists from the open-ended questions were closely reviewed based on the reasons provided and literature evidence. Items that reached consensus together with accepted addition items were included in the Delphi Round 2 questions. In this round, respondents were asked to rank the items in order of importance. A descriptive data analysis was conducted to identify the ranking of the items as perceived by respondents. Measures were taken in terms of collective group ranking, mean ranking, median, and Kendall's concordance coefficient, W . To confirm whether a consensus had been achieved, Kendall's coefficient of concordance, W technique was used. If the W value was 0.7 or higher, the analysis will end, otherwise it will continue to the next iterative round until a consensus is reached.

The Delphi Round 2 results, including group ranking, mean ranking, median ranking and individual ranking, were included in the Delphi Round 3 questions. In this round, respondents were given the opportunity to review their previous rank and re-rank if desired by comparing the rank of other respondents. Throughout this round, respondents were given the opportunity to revisit their previous rank and re-rank, if desired, by comparing the ranks of other respondents. Consistent with the Delphi Round 2 analysis, a descriptive analysis of the data was carried out with the aid of SPSS 20.0 software to identify the ranking of the items as perceived by the respondents. Measures were taken in terms of group ranking, mean ranking, median, and Kendall's concordance coefficient, W . If the W value found to be 0.7 and greater, the study will be concluded. Mean ranking was used to define the ranked items. Item that means ranking nearest to 1 was in the first rank.

Regarding the organisation case study, a qualitative interview procedure with a phenomenological approach was adopted to obtain data. Five participants from five local construction firms were interviewed on a one-to-one basis. The interviews were conducted at the recommendation of the participants. The audio recorder and field notes were used to document interviews. The outcomes of each participant's interview have been transcribed and field notes have also been typed up for further assessment. Upon analyzing the interview transcripts, the transcripts were encoded by segmenting sentences into categories and labelling those categories with the relevant terms. A narrative passage

has been used to describe the findings of the analysis. Finally, an interpretation or meaning of the data was made prior to the conclusion of the results.

Chapter 4 presents the data analysis and findings of the research, before a discussion of the findings, conclusion, and recommendations presented in the subsequent chapter.



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CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

Within this chapter, the data collected from the Delphi study and the organisational case study are presented, analyzed, described and systematically interpreted. The findings were related to the primary research question formulated in Chapter 1: How to ensure the successful adoption of the CSR agenda in the Malaysian construction sector? The answers to this primary research question were addressed by the following research questions:

- RQ₁: What are the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as defined by the Delphi expert panellists?
- RQ₂: How does the level of readiness of the Malaysian construction firms to adopt corporate social responsibility (CSR) as measured against the validated critical success factors (CSFs)?

The answers to these research questions will fill the knowledge gap that exists in literature on CSFs for CSR adoption in the Malaysian construction sector, and thus addressed the research objectives.

The chapter begins with the discussion of the first stage of the study. This will first discuss the selection and demographic characteristics of expert panellists. The results from the Delphi rounds were then discussed. Next, the second stage of the study was presented in this chapter. This includes discussions on the outcomes of qualitative interviews. The chapter concludes with a summary of how the results addressed the research questions.

4.2 Number of Expert Panellists

Sixteen experts have agreed to participate in the Delphi study process. They met the pre-described criteria of being an expert, and all of them were officially chosen. The experts were made up of eleven construction sector practitioners and five academics. Table 4.1 lists the Delphi panels for the current study. In order to maintain the anonymity and confidentiality nature of the Delphi study, the experts were given the fictitious name EXPERT.

Table 4.1 Delphi Expert Panellists

No.	Fictitious Name	Field	Position
1.	EXPERT 1	Academician	Senior Lecturer
2.	EXPERT 2	Academician	Senior Lecturer
3.	EXPERT 3	Engineering Consultant	Senior Engineer
4.	EXPERT 4	Engineering Consultant	Director
5.	EXPERT 5	Academician	Senior Lecturer
6.	EXPERT 6	Contractor	Director
7.	EXPERT 7	Academician	Senior Lecturer
8.	EXPERT 8	Engineering Consultant	Senior Architect
9.	EXPERT 9	Engineering Consultant	Senior Engineer
10.	EXPERT 10	Engineering Consultant	Principal
11.	EXPERT 11	Engineering Consultant	Senior Town Planner
12.	EXPERT 12	Academician	Senior Lecturer
13.	EXPERT 13	Engineering Consultant	Principal
14.	EXPERT 14	Contractor	Director
15.	EXPERT 15	Contractor	Senior Engineer
16.	EXPERT 16	Engineering Consultant	Principal

4.3 Findings of Delphi Study

4.3.1 Demographic Characteristics of the Expert Panellists

The Delphi process for this study started in the first week of May 2018. Sixteen experts from the Malaysian construction sector consisted of eleven construction sector

practitioners and five academicians were recruited. The Delphi Round 1 questionnaire (see Appendix H) was submitted electronically to the sixteen experts. All of them responded to the Round 1 questionnaire represented a 100% response rate. Table 4.2 to Table 4.10 summarizes the profile of expert panellists as a result of the Delphi Round 1 process.

As shown in Table 4.2, 50.00% ($N = 8$) of the experts were professional engineering consultants, 18.75% ($N = 3$) were contractors, and 31.25% ($N = 5$) were academicians. The combination of practitioners from various disciplines of the Malaysian construction sector coupled with academicians from different Malaysian public universities has makes this study unique and interesting. In addition, it provides a forum for interaction and feedback mechanism between industry practitioners and academicians as emphasised by Gibson and Whittington (2010) to be best practices research in the construction sector. The diversity of the composition of the experts could reduce any bias that may emerge in the findings of this study.

Table 4.2 Summary of Group of Expert Panellists

Group	Frequency (N)	Percent (%)
Professional Engineering Consultant	8	50.00
Contractor	3	18.75
Academician	5	31.25
<i>Total</i>	<i>16</i>	<i>100.00</i>

Table 4.3 shows that the composition of the experts was male and female representing 75.00% ($N = 12$) and 25.00% ($N = 4$) of the total number of experts, respectively. The result showed that the majority of Malaysian construction sector experts are male, which is consistent with the study by Hamid (2016).

Table 4.3 Summary of Gender of Expert Panellists

Gender	Frequency (N)	Percent (%)
Male	12	75.00
Female	4	25.00
<i>Total</i>	<i>16</i>	<i>100.00</i>

Table 4.4 indicates that the majority of the experts or 37.50% ($N = 6$) were between 51 to 60 years old, 25.00% ($N = 4$) were between 21 to 30 years old of age, 18.75% ($N = 3$) were between 31 to 40 years old, 12.50% ($N = 2$) were between 41 to 50 years old, and another 6.25% ($N = 1$) were over 60 years old. This output has shown that all the experts have vast experience in the construction sector in Malaysia.

Table 4.4 Summary of Age of Expert Panellists

Age (Year)	Frequency (N)	Percent (%)
21-30	4	25.00
31-40	3	18.75
41-50	2	12.50
51-60	6	37.50
Over 60	1	6.25
<i>Total</i>	<i>16</i>	<i>100.00</i>

Table 4.5 presents the current designation held by experts. 31.25% ($N = 5$) of the experts were senior lecturers. Both 18.75% ($N = 3$) of the experts were directors, principals, and senior engineers of the firms. Both 6.25% ($N = 1$) were senior town planner and senior architect. The outcome implied that the experts represented the various disciplines of the Malaysian construction sector. In addition, the use of a mixture of experts could remove bias in response (Wu and Wang, 2013; Hamid, 2016).

Table 4.5 Summary of Designation of Expert Panellists

Designation	Frequency (N)	Percent (%)
Director	3	18.75
Principal	3	18.75
Senior Engineer	3	18.75
Senior Town Planner	1	6.25
Senior Architect	1	6.25
Senior Lecturer	5	31.25
<i>Total</i>	<i>16</i>	<i>100.00</i>

Table 4.6 indicates that the majority (87.50%, $N = 14$) of the experts having experience in CSR activities either formal or non-formal. Only two experts reported that they have no past experience in CSR activities (12.50%, $N = 2$). Since the majority of experts have undergone CSR, their outputs could be considered accurate and enable to draw valid findings.

Table 4.6 Summary of Experience of Expert Panellists in CSR

Experience in CSR	Frequency (N)	Percent (%)
Experienced	14	87.50
Non-experienced	2	12.50
<i>Total</i>	<i>16</i>	<i>100.00</i>

Table 4.7 indicates that 50.00% ($N = 10$) of the experts held bachelor's degree, 31.25% ($N = 5$) held doctorate degree, and the balance 18.75% ($N = 3$) held master's degree. Such findings were consistent with the suggestion made by Hamid (2016) that the level of education qualifications of experts is one of the important attributes of the selection of experts in the Delphi study.

Table 4.7 Summary of Education Background of Expert Panellists

Education Background	Frequency (N)	Percent (%)
Bachelor's degree	8	50.00
Master's degree	3	18.75
Doctorate degree	5	31.25
<i>Total</i>	<i>16</i>	<i>100.00</i>

Table 4.8 shows that the accumulated years of industrial experience of the experts was 202 years at an average of 18.36 years per expert and the accumulated years of academic experience was 85 years at an average of 17.00 years per expert. The accumulated experience of the experts for both industrial and academic was 287 years at an average of 17.94 years per expert. In previous studies within the construction sector, Rajendran and Gambatese (2009), and Agumba (2013) reported that experts average experience in their study was 15.5 years per expert and 14.9 years per expert, respectively, which is lesser than the current findings. The outcome implied that the composition of

experts recruited in the current study was of sufficient experience and therefore capable of delivering meaningful information.

Table 4.8 Summary of Industrial and Academic Experience of Expert Panellists

Industrial and Academic Experience	Total Year	Percent (%)
Professional Engineering Consultant	122	60.40
Contractor	80	39.60
<i>Total (Industrial Experience)</i>	202	100.00
<i>Average Industrial Experience</i>	<i>18.36 years/expert</i>	
Academic	85	100.00
<i>Total (Academic Experience)</i>	85	100.00
<i>Average Academic Experience</i>	<i>17.00 years/expert</i>	
<i>Total Industrial and Academic Experience</i>	287	
<i>Average Industrial and Academic Experience</i>	<i>17.94 years/expert</i>	

Table 4.9 indicates that only six of the experts were registered to practice with professional bodies. 66.67% ($N = 4$) of them have been registered within 11 to 20 years and another 33.330% ($N = 2$) over 20 years. The result has shown that the experts have some unique insights that allow them to produce better outcomes.

Table 4.9 Summary of Professional Licensure of Expert Panellists

Professional Licensure (Year)	Frequency (N)	Percent (%)
0-4	-	-
5-10	-	-
11-20	4	66.67
Over 20	2	33.33
<i>Total</i>	6	100.00

Table 4.10 shows that 68.75% ($N = 11$) of the experts were found to be the members of the Institution of Engineers, Malaysia, 12.50% ($N = 2$) of them were members of the Royal Institution of Surveyors, Malaysia, and each 6.25% ($N = 1$) was the member of the Malaysian Institute of Architects and the Malaysian Institute of Planners, respectively. The remaining 6.25% ($N = 1$) did not a member of any NGO.

Table 4.10 Summary of NGO's Involvement of Expert Panellists

NGO's Involvement	Frequency (N)	Percent (%)
The Institution of Engineers, Malaysia	11	68.75
Royal Institution of Surveyors, Malaysia	2	12.50
Malaysian Institute of Architects	1	6.25
Malaysian Institute of Planners	1	6.25
Not at all	1	6.25
<i>Total</i>	<i>16</i>	<i>100.00</i>

The most significant finding from the demographic characteristics of the expert panellists was that all the panellists comply with the criterion for being experts of which they met at least three of eight requirements stated in Section 3.5.2 of Chapter 3. Hence, it was confirmed that they were qualified as an expert who can provide an opinion on the issues under study. The result added confidence that the data collected were of sound quality, which would allow a valid and generalized conclusion to be drawn.

4.3.2 Delphi Round 1

The Delphi Round 1 process is regarded as a brainstorming section. The questionnaire was emailed to the sixteen experts who officially agreed to participate in the current study. All the experts returned the Round 1 questionnaire, representing a 100% response rate. The experts were asked to evaluate the twelve listed potential CSFs based on their experience and expertise. They were then asked to select the factors that they feel are critical for the successful adoption of CSR agenda in the Malaysian construction sector by ticking the appropriate given field. A brief description of each listed factor was provided.

To iterate, the pre-described consensus criteria for Delphi Round 1 specified that consensus will be reached if more than 50% of expert panellists select factors that seem to be critical to the CSR adoption in the Malaysian construction sector. Table 4.11 summarizes the results of the Delphi Round 1. It tabulates the CSFs for CSR adoption as agreed by expert panellists in terms of the frequently cited and percentage.

Table 4.11 Consensus Measures of Delphi Round 1

Item	Critical Success Factor	N	%
1.	Financial resources	14	87.5
2.	Top management support	13	81.2
3.	Employees' education and training on CSR	11	68.7
4.	Participation of key stakeholders in CSR process	14	87.5
5.	Integrating CSR vision and initiatives with firm's strategy	9	56.2
6.	Government support	13	81.2
7.	Employees' involvement in CSR process	11	68.7
8.	Managerial or internal CSR skills	14	87.5
9.	Organisational culture	11	68.7
10.	Human resources*	8	50.0
11.	Monitoring and evaluating of the firm's CSR activities	13	81.2
12.	Strategic collaboration with suppliers	13	81.2

Note: *Did not reach consensus. Consensus was defined as more than 50% of expert panellists have chosen the factors as critical.

As can be seen from the table, the analysis of the responses indicated that more than 50% of the expert panellists agreed on eleven factors critical to the successful adoption of CSR in the Malaysian construction sector. The factors were financial resources, top management support, employee's education and training on CSR, participation of key stakeholders in CSR process, integrating CSR vision and initiatives with firm's strategy, government support, employees' involvement in CSR process, managerial or internal CSR skills, organisational culture, monitoring and evaluating of the firm's CSR activities, and strategic collaboration with suppliers. One factor, namely human resources has been selected by 50% of the expert panellists as critical to the successful adoption of CSR in the Malaysian construction sector. Following the pre-determined criterion of which factor that agreed by expert panellists for 50% or less did not achieve the desired consensus, this factor was excluded from the list. As a result, the other eleven factors that have reached the desired consensus remained in the list.

In addition, six experts suggested ten other factors that he/she considered critical to the successful adoption of the CSR agenda in the Malaysian construction sector. These

factors include:

CSR is not a firm's routine job. Therefore, supporting from internal and external stakeholders is important to the success of CSR activities.

(EXPERT 1, 2018)

Poor communication of CSR programs to the audiences can bring negative effects. For example, if community do not really understand CSR, they may not effectively support the program goals.

(EXPERT 1, 2018)

The stable government is an important element of economic development. If the country is wealthy, then more businesses are available. In turn, more changes for CSR activities.

(EXPERT 1, 2018)

Stability political system is an essential component in socio-economic stability for any country, and in turn, more developments are available. In this sense, construction firms have changes to secure projects, thus can promote CSR activities effectively.

(EXPERT 2, 2018)

CSR must well understand by the staffs to ensure them effectively supporting the activities.

(EXPERT 2, 2018)

An appropriateness of organisational structure will allow organisation to respond to the CSR activities effectively. Efforts to promote CSR initiatives frequently face organisational resistance and inertia.

(EXPERT 3, 2018)

Rewarding people who involve in successful CSR could create enthusiasm and credibility around CSR activities.

(EXPERT 4, 2018)

Low awareness of stakeholder on CSR efforts could make difficult to realize the full value of the strategic CSR as a source of competitive advantage.

(EXPERT 5, 2018)

The national economic growth may result in increases demand for construction projects. With projects in hand, construction firms might have ample budget for CSR activities due to it voluntary in nature.

(EXPERT 5, 2018)

All staffs must aware about the important of the CSR as a strategic tool for firm's competitive advantage.

(EXPERT 6, 2018)

All the additional factors suggested by the experts have been carefully reviewed on the basis of the reasons provided by the experts and the literature facts. Thematic analysis was used to define common themes from the additional factors suggested by the respondents and to group them into thematic groups. The work by Brady (2015) was followed to perform the thematic analysis. Responses were closely examined in order to find a data attribute that seemed to be relevant to the research themes. The data were coded separately on the basis of concepts, categories, definitions of categories and

relevant themes (see Appendix N).

Table 4.12 provides an example of the process of thematic analysis. It considered that the concept of “rising supporting” was related to “stakeholder support” and could be described as “CSR success in a firm depends on the support of its stakeholders”. Finally, the theme of “key stakeholders support” was described as the most abstract aspect of the thematic analysis process on the given example.

Table 4.12 Example of Thematic Analysis Process

Response	Concepts	Categories	Category Definitions	Relevant Themes
CSR is not a firm’s routine job. Therefore, supporting from internal and external stakeholders is important to the success of CSR activities.	Raising supporting	Stakeholders’ support	CSR success in a firm depends on supporting from its stakeholders	Key stakeholders support

Upon analysis, seven themes were frequently discussed by the respondents. The themes include:

i. Key stakeholders support

Key stakeholders support was consistent with the factors initially listed, namely top management support, participation of key stakeholders in CSR process, government support, employee involvement in CSR process, and strategic collaboration with suppliers. This factor was therefore rejected.

ii. Effective CSR communication

Effective CSR communication is related an accurately portray the CSR identity and image of the firm, thereby enhancing brand value and public

recognition (Villagra, Cárđaba, & Ruiz San Román, 2016; Kim & Ji, 2017). Tata and Prasad (2015) stressed the importance for organisations not only to engage in CSR, but also to ensure that information about CSR is communicated to the public. Lack of public awareness regarding the firm's CSR was reported as one of the main reasons for CSR failure (Du, Bhattacharya, & Sen, 2010). Therefore, this factor was accepted.

iii. National economic growth

National economic growth was considered to be related to socio-economic progress (Srinivasu & Srinivasa Rao, 2013). Progress in the national economy would contribute to an increase in demand for infrastructure and construction projects. As a result, the probability of construction firms winning contracts is higher and, in effect, they will be able to make more money. With the budget in hand, they will be able to support the CSR agenda. Therefore, this factor was accepted as an additional CSF.

iv. National political stability

According to Shepherd (2010), stability implies a stable political environment that, in effect, attracts investment both internally and externally. Previous studies have shown that the political stability of a nation will contribute to economic development, which in effect ensures a safe and prosperous business environment (Radu, 2015; Javed, Waseem, Shabbir, Muhammad, & Mushtaq, 2018). Thus, this factor was also accepted.

v. Educating employees

Educating employees on CSR was found to be consistent with the factors initially listed, namely employee education and training on CSR. This factor was therefore dismissed.

vi. Organisational structure

The organisational structure was considered to be the hierarchical

framework within which the task is divided, grouped and coordinated (Coulter, 2003). According to Alam (2011), the effectiveness of any strategy adopted by the firm depends primarily on the degree to which the strategy fits into the organisational structure. Mousiolis and Zaridis (2014) concluded that the CSR program has an influence on the framework of the firm in terms of its functionality. This factor was therefore accepted as an additional CSF.

vii. Provides incentive

The provision of benefits or incentives to workers participating in CSR activities was considered to be part of human resource practices that were originally defined and did not reach a consensus. Consequently, this item has been rejected.

Table 4.13 displays the final results of the thematic analysis showing whether the items accepted or rejected as additional CSFs for CSR adoption in the Malaysian construction sector.

Table 4.13 Results from Thematic Analysis

Factor	Accept	Reject
Key stakeholders support		✓
Effective CSR communication	✓	
National economic growth	✓	
National political stability	✓	
Employee education and training on CSR		✓
Organisational structure	✓	
Provides incentive		✓

As shown in the table, three factors were rejected because they were compatible with the factors initially identified. Four factors suggested by expert panellists have been recognized as new factors and aligned with the findings of the literature review. Significant results from the Delphi Round 1 process have been the discovery of fifteen factors considered by expert panellists as CSFs for CSR adoption in the Malaysian construction sector. Such factors have been used in the Delphi Round 2 questionnaire.

Table 4.14 summarizes the final CSFs for CSR adoption in the Malaysian construction sector that emerged from the Delphi Round 1 survey.

Table 4.14 CSFs Emerged from Delphi Round 1

Item	Critical Success Factor
1.	Financial resources
2.	Top management support
3.	Employee education and training on CSR
4.	Participation of key stakeholders in CSR process
5.	Integrating CSR vision and initiatives with firm's strategy
6.	Government support
7.	Employee involvement in CSR process
8.	Managerial or internal CSR skills
9.	Organisational culture
10.	Monitoring and evaluating of the firm's CSR activities
11.	Strategic collaboration with suppliers
12.	National political stability*
13.	Effective CSR communication*
14.	Organisational structure*
15.	National economic growth*

Note: *New factors as suggested by expert panellists

4.3.3 Delphi Round 2

The Delphi Round 2 process took place in the third week of May 2018. Fifteen factors, consisting of eleven factors which reached a consensus, and four valid additional factors, were included in the questionnaire. Questionnaires were sent to the sixteen expert panellists who responded to the Round 1 survey. As a result, fourteen respondents returned the questionnaires, representing 87.5% of the response rate. The two expert panellists from construction sector practitioners who did not respond in Round 2 provided current workloads as the reasons for doing so.

In this round, the order of questions was randomised for each respondent. Respondents were asked to carefully review and rank the fifteen CSFs in order of importance. Rank 1 was the most important CSF and rank 15 was the least important CSF for CSR adoption in the Malaysian construction sector. A brief overview of each of the factors mentioned was given to the guided respondents.

Upon receiving the responses, the descriptive statistics were conducted using the Statistical Package for the Social Science Version 20.0 (SPSS 20.0) software. Group ranking, mean ranking, median ranking and Kendall's coefficient of concordance, *W* were measured. Table 4.15 shows the descriptive statistics that emerged from Delphi Round 2.

Table 4.15 Descriptive Statistics of Delphi Round 2

Item	Critical Success Factor	Mean	Ranked	
			Min.	Max.
1.	Financial resources	1.43	1	4
2.	Top management support	3.14	1	6
3.	Employee education and training on CSR	7.43	2	12
4.	Participation of key stakeholders in CSR process	7.57	3	14
5.	Integrating CSR vision and initiatives with firm's strategy	9.64	6	14
6.	Government support	8.50	1	15
7.	Employee involvement in CSR process	9.43	5	15
8.	Managerial or internal CSR skills	6.93	2	14
9.	Organisational culture	9.43	2	13
10.	Monitoring and evaluating of the firm's CSR activities	11.00	4	15
11.	Strategic collaboration with suppliers	12.93	3	15
12.	National political stability	8.79	2	14
13.	Effective CSR communication	7.43	3	14
14.	Organisational structure	8.43	5	14
15.	National economic growth	6.93	1	14

The results showed that Item 1 (financial resources) was the factor with the smallest mean of 1.43 and was ranked by expert panellists with a minimum ranking of 1 and the maximum ranking of 4. Meanwhile, Item 11 (strategic collaboration with suppliers) was the factor with the highest mean of 12.93 and was ranked with a minimum ranking of 3 and the maximum ranking of 15. It was also noticed that six items had a similar mean rank. Synthesizing the findings, Table 4.16 summarizes the CSF's group ranking based on the mean ranks.

Table 4.16 Group Ranking Emerged from Delphi Round 2

Critical Success Factor	Mean Rank	Group Rank
Financial resources	1.46	1
Top management support	3.21	2
Managerial or internal CSR skills	7.00	3
National economic growth	7.00	4
Employee education and training on CSR	7.50	5
Effective CSR communication	7.50	6
Participation of key stakeholders in CSR process	7.64	7
Organisational structure	8.50	8
Government support	8.54	9
National political stability	8.86	10
Employee involvement in CSR process	9.50	11
Organisational culture	9.50	12
Integrating CSR vision and initiatives with firm's strategy	9.71	13
Monitoring and evaluating of the firm's CSR activities	11.07	14
Strategic collaboration with suppliers	13.00	15
Kendall's coefficient of concordance, <i>W</i>		0.398

Expert panellists generally agreed that Item 1 (financial resources) was the most important CSF, with a mean ranking of 1.46. It was followed by Item 2 (top management support) in second with a mean ranking of 3.21. Meanwhile, Item 8 (managerial or internal CSR skills) and Item 15 (national economic growth) were found to have a similar

mean ranking of 7.00. However, Item 8 (managerial or internal CSR skills) was agreed by fourteen expert panellists in Delphi Round 1, representing 87.5% of agreements. Meanwhile, Item 15 (national economic growth) was a newly added factor as suggested by expert panellists in Delphi Round 1. Thus, Item 8 (managerial or internal skills on CSR) was ranked in 3 and Item 15 (national economic growth) in 4. Similar reasons applied to Item 3 (employee education and training on CSR) and Item 13 (effective CSR communication) that had a similar mean ranking of 7.50. However, Item 3 (employee education and training on CSR) have been agreed by eleven expert panellists with 68.7% of agreements, while Item 13 (effective CSR communication) was a newly listed factor. Thus, Item 3 (employee education and training on CSR) was ranked in 5 and Item 13 (effective CSR communication) in 6.

It was also found that Item 7 (employee involvement in CSR process) and Item 9 (organisational culture) also had a similar mean ranking of 9.50. However, Item 7 (employee involvement in CSR process) was cited more frequently as the important factors for CSR practices compared to Item 9 (organisational culture). This evidence could be derived from the findings of the analysis of thirty-three selected studies previously discussed in Section 2.9 of Chapter 2. Therefore, Item 7 (employee involvement in CSR process) was listed in rank 11 and Item 9 (organisational culture) in rank 12. In addition, Kendall's coefficient of concordance W was found to be 0.398 which implies Delphi Round 2 process achieved a weak convergence (Schmidt, 1997).

4.3.4 Delphi Round 3

Delphi Round 2 process was conducted in the second week of Jun 2018. This Delphi Round 3 process was the controlled feedback process. In this round, questionnaires were emailed to the fourteen expert panellists who responded to the Round 2 survey. All the fourteen respondents returned the questionnaire, representing a 100.0% response rate. Again, the order of questions for each respondent were randomised. Respondents were given an opportunity to review their previous ranking by considering the opinions of other expert panellists. They were asked to re-rank the CSFs, if desired. In doing so, the collective group ranking, mean, and median were provided together with their previous response in the Round 2 survey. As a reference, a brief description of each

listed factor was also provided. Table 4.17 summarises the descriptive statistics as a result of the Delphi Round 3 process.

Table 4.17 Descriptive Statistics of Delphi Round 3

Item	Critical Success Factor	Mean	Ranked	
			Min.	Max.
1.	Financial resources	1.14	1	3
2.	Top management support	2.29	1	4
3.	Employee education and training on CSR	5.43	3	11
4.	Participation of key stakeholders in CSR process	6.86	3	9
5.	Integrating CSR vision and initiatives with firm's strategy	11.93	6	13
6.	Government support	8.93	4	14
7.	Employee involvement in CSR process	10.36	7	13
8.	Managerial or internal CSR skills	4.14	2	14
9.	Organisational culture	11.71	10	12
10.	Monitoring and evaluating of the firm's CSR activities	13.50	9	15
11.	Strategic collaboration with suppliers	14.14	6	15
12.	National political stability	10.00	2	15
13.	Effective CSR communication	7.14	6	13
14.	Organisational structure	7.29	4	8
15.	National economic growth	5.14	1	14

Some expert panellists have provided a new ranking of either higher or lower or have retained their previous ranking. Descriptive statistical analysis showed that Item 1 (financial resources) was ranked by expert panellists with a minimum ranking of 1 and a maximum ranking of 3, and have a mean ranking of 1.14. Item 2 (top management support) was ranked with a minimum 1 and a maximum of 4, and a mean of 2.29. Item 3 (employee education and training on CSR) was ranked with a minimum of 3 and a maximum of 11, and a mean of 5.43. Synthesizing the findings, Table 4.18 summarizes the CSF's group ranking based on the mean rankings of the Delphi Round 3.

Table 4.18 Group Ranking Emerged from Delphi Round 3

Item	Critical Success Factor	Mean Rank	Group Rank
1.	Financial resources	1.14	1
2.	Top management support	2.29	2
3.	Employee education and training on CSR	5.43	5
4.	Participation of key stakeholders in CSR process	6.86	6
5.	Integrating CSR vision and initiatives with firm's strategy	11.93	13
6.	Government support	8.93	9
7.	Employee involvement in CSR process	10.36	11
8.	Managerial or internal CSR skills	4.14	3
9.	Organisational culture	11.71	12
10.	Monitoring and evaluating of the firm's CSR activities	13.50	14
11.	Strategic collaboration with suppliers	14.14	15
12.	National political stability	10.00	10
13.	Effective CSR communication	7.14	7
14.	Organisational structure	7.29	8
15.	National economic growth	5.14	4

Expert panellists generally agreed that Item 1 (financial resources) was the most significant CSF, with a mean ranking of 1.14. Item 2 (top management support) was the second with a mean ranking of 2.29. It was followed by Item 8 (managerial or internal CSR skills) in the third ranking with a mean of 4.13, Item 15 (national economic growth) was in forth rank (5.14), and Item 3 (employee education and training on CSR) was in fifth rank (5.43). Item 11 (strategic collaboration with suppliers) was found to be the highest rank of 15 (14.14). In addition, Kendall's coefficient of concordance, W was found as 0.784. This result indicates the Round 3 of Delphi process achieved a strong to an unusually strong agreement as suggested by expert panellists which implies high confidence in ranks (Schmidt, 1997).

4.3.5 Consensus of the Delphi Rounds

Table 4.19 illustrates the responses changed between the Delphi rounds. Some expert panellists changed their minds in the controlled feedback process of Round 3. For example, in Round 2, Item 1 (financial resources) was ranked by expert panellists with a minimum ranking of 1 and a maximum ranking of 4, and in Round 3, the item was ranked with a minimum 1 and a maximum 3. Similarly, Item 2 (top management support) was ranked in Round 2 with a minimum of 1 and a maximum of 6, and in Round 3 with a minimum of 1 and a maximum of 4. Only two items maintained similar rankings in Round 2 and Round 3. Item 8 (managerial or internal CSR skills) was ranked in both rounds with a minimum of 2 and a maximum of 14. Likewise, in both rounds, Item 15 (national economic growth) was ranked with a minimum of 1 and a maximum of 14. Those changes have resulted in an improvement of each item's mean rank.

Table 4.19 Responses Changed in Delphi Round 2 and Round 3

Item	Critical Success Factor	Round 2		Round 3	
		Min.	Max.	Min.	Max.
1.	Financial resources	1	4	1	3
2.	Top management support	1	6	1	4
3.	Employee education and training on CSR	2	12	3	11
4.	Participation of key stakeholders in CSR process	3	14	3	9
5.	Integrating CSR vision and initiatives with firm's strategy	6	14	6	13
6.	Government support	1	15	4	14
7.	Employee involvement in CSR process	5	15	7	13
8.	Managerial or internal CSR skills	2	14	2	14
9.	Organisational culture	2	13	10	12
10.	Monitoring and evaluating of the firm's CSR activities	4	15	9	15
11.	Strategic collaboration with suppliers	3	15	6	15
12.	National political stability	2	14	2	15
13.	Effective CSR communication	3	14	6	13
14.	Organisational structure	5	14	4	8
15.	National economic growth	1	14	1	14

Table 4.20 displays the improvement of consensus or convergence between the successive rounds of Delphi process.

Table 4.20 Consensus between Delphi Rounds

Item	Critical Success Factor	Delphi Process				
		R1		R2		R3
		%	Mean	Rank	Mean	Rank
1.	Financial resources	87.5	1.46	1	1.14	1
2.	Top management support	81.2	3.21	2	2.29	2
3.	Employee education and training on CSR	68.7	7.50	5	5.43	5
4.	Participation of key stakeholders in CSR process	87.5	7.64	7	6.86	6
5.	Integrating CSR vision and initiatives with firm's strategy	56.2	9.71	13	11.93	13
6.	Government support	81.2	8.54	9	8.93	9
7.	Employee involvement in CSR process	68.7	9.50	11	10.36	11
8.	Managerial or internal CSR skills	87.5	7.00	3	4.14	3
9.	Organisational culture	68.7	9.50	12	11.71	12
10.	Human resources*	50.0	-	-	-	-
11.	Monitoring and evaluating of the firm's CSR activities	81.2	11.07	14	13.50	14
12.	Strategic collaboration with suppliers	81.2	13.00	15	14.14	15
13.	National political stability**	-	8.86	10	10.00	10
14.	Effective CSR communication**	-	7.50	6	7.14	7
15.	Organisational structure**	-	8.50	8	7.29	8
16.	National economic growth**	-	7.00	4	5.14	4
Total number of factors, <i>N</i>		12		15		15
Kendall's Coefficient of Concordance, <i>W</i>		-	0.398		0.784	

Note: *Did not achieve consensus, excluded from the list for Round 2.

**New factors emerged from Delphi Round 1, included in the list for Round 2

In the first round of the Delphi process, a consensus was assumed to be reached if more than 50% of expert panellists agreed on the factors as critical for the successful adoption of CSR in the Malaysian construction sector. As one can see, of the twelve listed factors, eleven factors were agreed by expert panellists as the potential CSFs for more than 50% of agreement. One factor agreed by expert panellists for 50% was excluded from the list. In addition, four additional factors suggested by expert panellists were included. As a result, a list of fifteen potential CSFs was emerged and used in Delphi Round 2.

In the Round 2 of Delphi process, expert panellists ranked the fifteen factors that they feel as the CSFs for CSR adoption in the Malaysian construction sector in order of importance (1 is the most essential CSF, 15 is the least essential CSF). Item 1 (financial resources) was ranked as the most essential CSF with a mean rank of 1.46. Meanwhile, Item 12 (strategic collaboration with suppliers) was the least essential CSF and was ranked in 15 with a mean rank of 13.00. In this round, the convergence of rankings was measured by Kendall's coefficient of concordance, W . Analysis of responses revealed that Kendall's Coefficient of Concordance, W was 0.398. Following the interpretation of Schmidt (1997), this finding indicated a weak convergence reached by the expert panellists, which implies the need for Delphi Round 3.

In Round 3 of the Delphi process, expert panellists have given an opportunity to re-rank the CSFs by considering the opinions of others in the group. Thirteen CSFs remained the same rank as in previous Delphi Round 2 but their mean rank was increased. For example, in both rounds, expert panellists placed Item 1 (financial resources) in rank 1 but the mean rank increased from 1.46 in Round 2 to 1.14 in Round 3. Another example was that Item 4 (the participation of key stakeholders in the CSR process) was rated in Round 2 in rank 7 with a mean rank of 7.64. In Round 3, however, the item's mean rank was increased to 6.86, and the ranking has improved to 6. As a result of these improvements, analysis of responses revealed that Kendall's Coefficient of Concordance, W was increased from 0.398 to 0.784. Referring to the interpretation provided by Schmidt (1997), the result indicated a strong agreement on the CSFs has been achieved. It should be noted that to achieve Kendall's coefficient of concordance, W more than 0.9 is rarely in the consensus study (Schmidt, 1997).

The reaching consensus in Delphi Round 3 process as recommended by expert panellists was not surprising since most changes in the Delphi response occurred in the first two rounds (Goluchowicz & Blind, 2011). In fact, the experiment conducted by Dalkey, Rourke, Lewis, and Synder (1972) revealed that the answers were most accurate in Round 2 (in this study, it refers to Round 3 since Round 1 was brainstorming section) and became less accurate in the subsequent rounds. It is therefore, the reaching consensus was a good indication that the fifteen CSFs were relevant in addressing the problem stated in this study. Since the reaching of a strong agreement on the CSFs, the iteration round of the Delphi process was stopped as there will no further benefit could be derived from more Delphi rounds. Particularly, the importance of the selected CSFs was not especially controversial.

4.3.6 Validated CSFs Emerged from Delphi Study

The significant findings of the three successive rounds of the Delphi study were that fifteen CSFs had formed a consensus, as suggested by the expert panellists. Nevertheless, as far as practical implementation is concerned, organisational CSFs should be as minimal as possible. Daniel (1961) suggested that organisational CSFs should focus on between three and six factors to ensure the success of a company's key jobs. Meanwhile, Parmenter (2019) suggested that organisational CSFs should be limited to between five and eight regardless of the organisation's size.

Therefore, the validated CSFs for CSR adoption in the Malaysian construction sector was limited to the top eight factors ranked as highly regarded as CSFs as suggested by the Delphi's panellists. Table 4.21 lists the eight validated CSFs for CSR adoption in the Malaysian construction sector in order of decreasing importance.

Table 4.21 Validated CSFs Emerged from the Delphi Study

Item	Critical Success Factor	Delphi Rank
1.	Financial resources	1
2.	Top management support	2
3.	Managerial or internal CSR skills	3
4.	National economic growth	4
5.	Employee education and training on CSR	5
6.	Participation of key stakeholders in CSR process	6
7.	Effective CSR communication	7
8.	Organisational structure	8

4.4 Interpretation of the Findings from Delphi Study and Discussion

The Delphi study was utilised to uncover the CSFs for CSR adoption in the Malaysian construction sector. The question to be answered was: What are the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as defined by the Delphi expert panellists? This question relates to the identification of the critical factors that should be satisfied to successfully adoption of CSR into practice.

Significant results from the Delphi process have been that expert panellists have identified fifteen CSFs for the successful adoption of CSR agenda in Malaysian construction sector. It should be noted that these fifteen CSFs have reached a consensus as a result of three consecutive rounds of the Delphi process and can therefore be considered as CSFs for CSR adoption the Malaysian construction firms. Nevertheless, for best practice and realistic implementation, Parmenter (2019) proposed that organisational CSFs should be limited to between five and eight, regardless of the size of the organisation. Following this recommendation, the final CSFs were limited to the top eight factors considered to be highly regarded as CSFs, as suggested by the Delphi panellists. Table 4.22 lists the rankings of the eight validated CSFs in order of decreasing importance.

Table 4.22 Comparison between Delphi and Literature on CSFs Ranking

Item	Critical Success Factor	Delphi Rank	Literature Rank
1.	Financial resources*	1	1
2.	Top management support*	2	2
3.	Managerial or internal CSR skills*	3	8
4.	National economic growth**	4	-
5.	Employee education and training on CSR*	5	3
6.	Participation of key stakeholders in CSR process*	6	4
7.	Effective CSR communication**	7	-
8.	Organisational structure**	8	-

Note: *Factors that consistence with the findings from literature; **New factors suggested by expert panellists; Rank 1 is the most essential, and Rank 8 is the least essential

These eight CSFs were then compared with the rankings revealed from the literature review, i.e. the findings of an analysis of thirty-three selected studies previously discussed in Section 2.8 of Chapter 2. It should be noted, however, that the CSF rankings from the literature review encompass various sectors and countries beyond the scope of the current study, which was limited to the context of the Malaysian construction sector.

It has been clearly shown that five factors can be considered as generic CSFs for the adoption of CSR, regardless of sector and country, since they are consistent with the findings of the literature. The factors include financial resources, top management support, managerial or internal CSR skills, employee education and training on CSR, and participation of key stakeholders in CSR process. The remaining three factors, namely national economic growth, effective CSR communication and organisational structure, were the new factors suggested by the Delphi panellists and may therefore be applied in the context of the Malaysian construction sector. Subsequent sections provide a discussion on each of the CSFs relating to the evidence in the literature and if the findings appeared to be new contributions.

4.4.1 CSF 1 – Financial Resources

Financial resources were considered to be the most essential factor regarded as CSFs for CSR adoption in the Malaysian construction sector as shown by the findings of the Delphi study and the literature review. The findings have implied that the availability of financial resources is the most crucial factor for CSR adoption. It could be concluded that the availability of financial resources is the most important factor for the adoption of CSR, irrespective of the sector and country in which the business operates. The arrival of consensus on financial resources could be expected. The charitable and discretionary behavior of the CSR will incur an additional cost to the firm. As a result, firms need to allocate part of their income to funded CSR activities. In this context, construction firms must have enough funds to cover the costs, and the costs can be in short-term or continuous outflows. Indeed, construction firms will be able to increase opportunities to engage in CSR activities if they have adequate financial capital (Surroca, Tribó, & Waddock, 2010).

The findings confirmed the evidence identified in the literature that suggested a direct relationship between the CSR and the availability of financial resources. Limited financial resources are said to have hindered the ability of firms to make substantial CSR investments, particularly for younger and smaller firms (Hasan & Habib, 2017). In addition, a firm can increase its discretionary activities when its financial resources increased (Surroca, Tribó, & Waddock, 2010). Supporting this, a study by Chek, Mohamad, Yunus, and Norwani (2013) in Malaysia showed that large and higher-income firms engaged more in CSR activities as they reported a higher degree of CSR disclosure.

On the other hand, financial constraints have been widely regarded as the primary obstacles to CSR adoption in many countries and sectors (Horvat, 2015; Shen, Govindan, & Shankar, 2015; Nadeem & Kakakhel, 2016; Agudo-Valiente, Garcés-Ayerba, & Salvador-Figueras, 2017). For example, a study by Kang, Ahmad, Goh, and Song (2015) and Abdullah, Mohandes, Hamid, and Singh (2016) in the Malaysian construction sector found that financial constraints were the key barriers to CSR adoption.

The finding emphasized that the availability of financial resources is of utmost importance to Malaysian construction firms if they wish to participate in CSR. In this

sense, construction firms may need specific budgets outside of what has been allocated to their official business operations, which could be obtained from their internal funds. Nonetheless, the most important thing is to ensure that these expenses do not have any further effect on the firm's business operations.

4.4.2 CSF 2 – Top Management Support

Top management support was the second highest factor regarded to CSFs for CSR adoption in the Malaysian construction sector as demonstrated by the results of the Delphi study and literature review. The finding suggested that top management support is one of the crucial factors for CSR adoption regardless of the sector and country in which the firm operates. Top management support is an essential factor in any organisation and has been considered as one of the CSFs in numerous studies. For example, in CEM literature, top management support was found to make a significant contribution to the performance of projects (Young and Poon, 2013; Khan, Long, & Iqbal, 2014; de Melo Moura, 2016; Al Kuwaiti, Ajmal, & Hussain, 2018). These studies indicated that top management support was regarded to be the most CSF that contributes to the project success, suggesting that the greater commitment of top management in the organisations, the higher the degree of success of the project.

CSR is implemented as a strategic competitive tool within the organisation. This means that the CSR has to be consciously implemented by the top management team. CSR is therefore a management tool and, when used, it must be actively assisted by the top management of the organisation. Top management as leaders of organisations has a significant role to play in ensuring that all corporate policies are in place. They are the sole authority to make a definitive decision on any plan or policy of the firm (Phan, Baird, & Blair, 2014). Failure to act in the right way could lead to resistance or even failure. Therefore, the level of support from top management or corporate leaders has a huge effect on the success or failure of any firm (Yang, Ashley, & Patel, 2014). An effective leader should be able to influence followers in the desired manner to achieve the desired goals (Nanjundeswaraswamy & Swamy, 2014). Through this sense, the effectiveness of any reform initiative, such as the implementation of CSR, depends heavily on the

consistency and workability of key decision-makers within the organisation (Lunenborg, 2010).

In the context of CSR, the results confirmed the evidence presented by Waldman and Siegel (2008) that top management or corporate leaders have a crucial role to play in formulating and enforcing the CSR agenda within their organisations. Their strategic actions help to build CSR images by specifically communicating them to the corporate audience (Tata & Prasad, 2015). At the other hand, the lack of top management support is one of the key obstacles to CSR adoption in many countries and sectors (Shen, Govindan, & Shankar, 2015; Bello, Banda, & Kamanga, 2017; Goyal & Kumar, 2017). Interestingly, the studies in the Malaysian construction sector found that lack of top management support was seen as a key obstacle to the implementation of CSR (Kang, Ahmad, Goh, & Song, 2015; Abdullah, Mohandes, Hamid, & Singh, 2016; Gharip & Majid, 2017).

This finding highlighted that the top management, in particular the directors or owners of the firm, must make a meaningful effort if they are to adopt a successful CSR agenda. As a leader, they have a crucial role to play in fostering ethical and moral conduct in their firms. In addition, they must also become models for followers and, in this sense, strive to form organisations through their own values and characteristics – the CSR agenda.

4.4.3 CSF 3 – Managerial or Internal CSR Skills

The biggest divergence from the literature was the comparatively high priority provided by the Delphi panellists to managerial or internal CSR skills compared to those found in the literature. Managerial or internal CSR skills were rated as the third factor to be highly regarded as the CSF for CSR adoption by the Delphi panelists compared to the eighth in the literature. While there was a significant difference, managerial or internal skills may still be regarded as one of the key factors for the adoption of CSR, irrespective of the field and country in which the business operates.

One possible explanation for this deviation was that the findings from the literature were studies performed in other industries outside the construction sector in

which the CSR strategy has been implemented for a fairly long time and has been well understood. Because CSR has been implemented for a long time, firms have inherent expertise in CSR and thus management or internal skills in CSR have been considered to be less important for the adoption of CSR. At the other hand, Delphi panellists considered that CSR was a new phenomenon in the Malaysian construction sector and therefore a specific managerial skill required, in particular, to integrate CSR into the firm's strategies.

Managerial skills that underpin the management process and the distribution of knowledge within an organisation are especially important when dealing with dynamic and ever-changing problems and challenges, such as CSR, which requires specific competencies and higher order of thinking (Oyugi, 2015). According to Osagie, Wesselink, Blok, Lans, and Mulder (2016), leadership needs to have specific competencies and to be able to create a vision of CSR that could directed the firm's CSR program. This includes being prepared to take risks and to search for a new approach and to think about future developments in CSR, as well as how those changes could impact the current CSR program of the organisation.

Because solving CSR issues is not a routine activity, every problem in CSR needs its own approach, and thus managerial competencies are essential for the design of effective approaches to the realization of sustainable solutions (Wesselink, Blok, van Leur, Lans, & Dentoni, 2015). There will therefore be a high risk, which implies an inability to create value for the firm and society if a lack skills among managers, particularly on how to integrate CSR into business strategy (Osagie, Wesselink, Blok, Lans, & Mulder, 2016). In addition, the finding also supported the evidence presented by Nadeem and Kakakhel (2016) that lack of managerial skills was one of the main barriers to non-compliance of standard CSR practice in an organisation.

4.4.4 CSF 4 – National Economic Growth

National economic growth was the fourth highly factor regarded to CSF for CSR adoption in the Malaysian construction sector. This factor was the newly introduced factor, as suggested by the Delphi panellists and thus could not be compared to the findings of the literature. The result suggested that national economic growth was not a generic key factor for CSR adoption and can therefore be applied in the context of the

Malaysian construction sector. Nevertheless, the discovery could be considered to have offered a significant contribution to the field.

One possible explanation was that the Delphi panellists considered the significant relationship between national economic growth and the construction sector, especially in the context of developing countries. In this regard, national economic growth was considered to be connected to socio-economic changes (Srinivasu & Srinivasa Rao, 2013). Economic prosperity will lead to more infrastructure projects and expanded prospects for construction sector (Hamid, 2016). As a result, more ways to generate income are given and a portion of the income can be used for CSR activities. Construction firms would then be able to promote the CSR agenda.

The relationship between national economic growth and construction sector is evident in literature. For example, a study of Ramachandra, Rotimi, and Rameezdeen (2013) in Sri Lanka found a one-way relationship with the national economy inducing growth in the construction sector, and not vice-versa. In the context of the Malaysian construction sector, there is evidence that the sector experienced a significant decline in its contribution to GDP from 4.7 percent in 1996 to 2.7 percent in 2005, resulted from declining of national economic growth due to the Asian Financial Crisis in 1997 (Hoq, Ha, & Said, 2009).

The findings supported the evidence given by Ismail, Jaafar and Saleh (2015) that the level of national economic development is an important variable affecting CSR understanding and practices, especially in developing countries. This was also consistent with the findings of Van Scheers (2016), which showed a positive correlation between economic growth and the performance of businesses.

4.4.5 CSF 5 – Employee Education and Training on CSR

Employee education and training on CSR were ranked as the fifth key factor regarded to CSF for CSR adoption in the Malaysian construction sector by the Delphi panellists compared to the third rank in literature. Employee education and training on CSR may therefore be generalised as one of the crucial factors for CSR adoption regardless of the sector and country in which the firm operates.

In a knowledge-based society, employees are the most important strategic asset linked to the competitive advantage aspect of the firm (Kefela, 2010). Because they are the internal stakeholders of the firms, they are the primary determinant of the effectiveness of any strategy implemented by the firm. In other words, the success of an organisation is determined by the performance of its employees (Siddiqui, 2014). Employees are therefore expected to have the ability, skill or competence to carry out the vision and mission of the organisation (Prabawati, Meirinawati, & Oktariyanda, 2017). Such ability, skill or competence can be established through education and training. With education and training, employees within the organisation can minimize or remove discrepancies between current outcomes with potential performance that can enhance the knowledge, expertise and skills required to achieve the vision and mission of the organisation (Prabawati, Meirinawati, & Oktariyanda, 2017).

Literature has indicated that investment in education and training for employees will promote immediate, non-financial benefits, such as improved product quality and operational efficiency (Ağan, Kuzey, Acar, & Açıkgöz, 2016; Cegarra-Navarro, Reverte, Gomez-Melero, & Wensley, 2016; Ferraz & Gallardo-Vazquez, 2016; Bekmeier-Feuerhahn, Bögel, & Koch, 2017), all of which should have a positive effect. The provision of on-going training for employees is therefore no longer an option but rather a requirement (Cavazotte & Chang, 2016).

In the context of CSR, Low and Ong (2015) considered that employees were the key influencers of the CSR programs carried out by the organisation. They are the driving force behind the organisational CSR (Seivwright & Unsworth, 2016). It has been argued that employees who value more their firm's CSR agenda would work with a greater commitment, loyalty and demonstrate more ingenuity in the performance (Abdullah, Ashraf, & Sarfraz, 2017). Since CSR is not a routine job, employees engaged in CSR require the ability, skill or competence to carry out CSR activities particularly important in the early stage of the integration of CSR into a firm strategy (von Weltzien Hoivik & Shankar, 2011).

Evidence have also indicated that investments in internal CSR, such as education and training, which intends to improve the technical and managerial skills, and

capabilities of employees, has been correlated with positive organisational outcomes such as performance (Agan, Kuzey, Acar, & Acikgoz, 2016; Cavazotte & Chang, 2016); Ferraz & Gallardo-Vazquez, 2016). For example, Toray Industries Incorporated, a global Japanese company, has successfully introduced CSR education and training for its employees through seminars in order to raise awareness of CSR (Toray, 2018).

On the other hand, lack of employee education and training on CSR have been reported as the leading factor to CSR poorly understood in many organisations, and has created challenges among CSR practitioners (Battaglia, Bianchi, Frey, & Iraldo, 2010; Duarte & Rahman, 2010; Baskaran, Nachiappan, & Rahman, 2011; Valmohammadi, 2011). Employees' education and training on CSR is therefore considered to be a CSF for CSR adoption in the Malaysian construction firms. In order to adopt CSR, employees particularly who have been directly involved in CSR programs should be educated and trained to support the strategic application of CSR.

4.4.6 CSF 6 – Participation of Key Stakeholders in CSR Process

The participation of key stakeholders in the CSR process was ranked as the sixth highly factor regarded as CSF for CSR adoption in the Malaysian construction sector by the Delphi panellists compared to the fourth rank in literature. Thus, this factor can also be generalised as one of the crucial factors for CSR adoption, irrespective of the sector and country in which the firm operates.

Stakeholder participation is about embracing opportunities and managing risks. In today's business environment, engaging with stakeholders in terms of conveniently, transparently, authentically and more frequently is no longer optional (Heismann, 2014).

Literature indicated that stakeholder engagement is an important aspect of an organisation's CSR agenda (Prabhu, 2016; Lane & Devin, 2018). It can be viewed from three perspectives. First, by engaging the key stakeholders, firms become more transparent about their CSR efforts and, in turn, are able to maintain legitimacy and build a reputation in the marketplace (McWilliams & Siegel, 2001). Second, through participating of key stakeholders, the real needs of society can be identified (Sarfo, Twum, Koku, Yankah, Kloos, & Worku, 2016). Third, by engaging of key stakeholders, firms would be in a stronger position to anticipate the satisfaction of stakeholders and, in

turn, the loyalty of stakeholders is expected (Isa, 2012). Nonetheless, Barić (2017) cautioned that the quality of such a relationship is indeed a key factor that affects the firm's performance in terms of distinguishing itself from its rivals and in return, enhancing a sustainable competitive advantage. As stated by Singh, Sethuraman and Lam (2017), the participation of key stakeholders in the CSR process should entail a meaningful and organized dialog that encourages the exchange of views, feedback and information on the CSR agenda between the firm and its stakeholders.

In the construction sector, stakeholder management is one of the main factors relevant to the performance of the projects (Prabhu, 2016; Jin, Zhang, Liu, Fenga, & Zuo, 2017). According to Ward and Chapman (2008), the push-and-pull effects and the interrelationship of characteristics within the stakeholder organisation and between the stakeholders themselves can have a significant impact on the construction sector and its entire value chain.

4.4.7 CSF 7 – Effective CSR Communication

Effective CSR communication was the seventh highly regarded as CSF for CSR adoption in the Malaysian construction sector. This factor was the newly introduced factor, as suggested by the Delphi panellists and therefore, could not be compared to the findings from the literature. It is suggested that this factor may be applicable in the context of the Malaysian construction sector.

One possible explanation was that the findings from the literature were the studies conducted in other sectors such as manufacturing, automotive, and service sectors where marketing efforts were the most important strategy for the businesses in the sectors.

Communication which includes CSR communication is one of the marketing strategies that recognised as a formal and necessary practice in the firms (Zatwarnicka-Madura, Siemieniako, Glińska, & Sazonenka, 2019). Therefore, effective CSR communication as a part of marketing strategies was considered less essential for CSR adoption as it was already practiced in the firms. On the other hand, Delphi panellists considered that CSR was a new trend in the Malaysian construction sector, and that effective CSR communication was required to ensure the return of this effort. Evidence may be extracted from a study by Ahmad and Mohamad (2014) that revealed CSR

communication in terms of CSR disclosures by Malaysian construction firms are not adequately detailed and are simply too vague narrative claims that can not be verified. Nevertheless, this discovery may be considered to have made a substantial contribution to the field.

While firms may be actively engaged in CSR activities, these actions will have little impact on their business unless they are effectively communicated to their stakeholders (Zatwarnicka-Madura, Siemieniako, Glińska, & Sazonenka, 2019). From a marketing perspective, the correct communication strategy is required to effectively influence consumer behaviour and consumer perceptions towards the firm's goods (Chaudary, Zahid, Shahid, Khan, & Azar, 2016). Consumers typically take into account the CSR activities of firms when making purchasing decisions, either increase their purchasing intention or make them willing to pay higher prices for the goods and services of firms (Bhardwaj, Chatterjee, Demir, & Turut, 2018). Therefore, expectations of a firm's stance on CSR are shaped by its corporate marketing efforts, including branding, image building, and communications (Stanaland, Lwin, & Murphy, 2011). Communication is also considered to be a core aspect of CSR management (Crane & Glozer, 2016).

The finding strongly supports the evidence given by Laskar and Maji (2016) that CSR communication has a positive and significant effect on the firm's performance in terms of disclosures. It also supported the findings of Abdullah and Aziz (2013) that the CSR antecedents emerged from the formalization of corporate communication management in Malaysian organisations that have had a direct effect on corporate reputation.

4.4.8 CSF 8 – Organisational Structure

Organisational structure was the eighth to be highly regarded as CSF for CSR adoption in the Malaysian construction sector. This factor was a newly introduced factor, as indicated by the Delphi panellists, and thus could not be compared to the literature findings. The finding suggests that this factor may be applicable in the context of the Malaysian construction sector.

One potential reason was that the literature results were studies performed in large firms where organisations are more formalized with a clear organisational structure already in place. Organisational structure was therefore not considered to be a crucial factor for the adoption of CSR. Compared to larger businesses, SMEs typically have less formal, flatter structures without specific types (Banham & Wiesner, 2006). Since CSR is linked to the firm's performance, Delphi panellists argued that it is necessary for a construction firm to have a proper organisational structure in order to achieve expected return of CSR initiatives.

Organisational structure is considered to be the 'organisational anatomy' (Dalton, Todor, Spendolini, Fielding, & Porter, 1980) and is considered to be the structured framework within which work is divided, grouped and coordinated (Coulter, 2003). In this sense, the success of any strategy depends to a large extent on its alignment with the structure (Alam, 2011). This is the only way that formal roles and responsibilities are delegated and interlinked (McCabe, 2010). The presumption is that, if the framework is correct, all processes and relationships within the organisation will be effective (Abd-Hamid, Azizan, & Sorooshian, 2015).

CSR is a strategic competitive tool for the organisation. As a result of a new approach in a business, the incorporation of CSR into a corporate strategy indicates the need for organisational change to facilitate its growth and integration into business practices and processes (Donaldson and Preston 1995). Nonetheless, research in the construction sector has shown the significance of the organisational structure in the light of the need to continuously tackle changes in the operating environment. Construction firms are therefore expected to maintain their organisational flexibility in order to remain viable in the market environment (Abd-Hamid, Azizan & Sorooshian, 2015).

In summary, based on the findings of the Delphi study and the discussions referred to above, the successful adoption of CSR in the Malaysian construction sector depends on eight CSFs, including financial resources, top management support, managerial or internal CSR skills, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. These factors are considered as CSFs for

CSR adoption in the Malaysian construction sectors because they have reached a consensus as viewed by experts in the construction sector. The first research question was therefore answered.

4.5 An Organisational Case Study

An organisational case study of five local construction firms was conducted to respond to the research question of “How does the level of readiness of the Malaysian construction firms to adopt corporate social responsibility (CSR) as measured against the validated critical success factors (CSFs)?”

The selection of participating firms was made to represent distinct work disciplines within the Malaysian construction sector. The study targeted a sample of directors or owners of the local construction firms in the State of Pahang who were decision makers of the firms with an inherent knowledge of the firm’s vision, strategic direction, and financial status. The initial idea was to interview ten firms that have the intention to adopt CSR in practice. Of the ten firms contacted, only five firms agreed to participate and confirmed that they concerned about CSR and planned to adopt in practice. The study was preceded by the five firms due to the time constraints.

Table 4.23 lists the participant firms and their respondents. To maintain confidentiality addressed by research ethics policy, the case firms and respondents were given pseudonyms names. For example, Firm ‘A’ indicated firm number one and represented by ‘RA’ as the respondent.

Table 4.23 Participant Firms and Respondents

Firm	Firm ID	Position	Gender	Academic Qualification	Age	Experience	Respondent ID
Engineering Consultant	A	Director	Male	Doctorate	56	31	RA
Engineering Consultant	B	Principal	Male	Bachelor	58	33	RB
Contractor	C	Director	Male	Master	66	44	RC
Contractor	D	Director	Male	Bachelor	50	25	RD
Contractor	E	Director	Male	Bachelor	36	12	RE

The case firms consisted of two professional engineering consulting firms and three contractors. Four of the firms represented by their directors, one by their principal, and all of them were male. In terms of academic qualifications, both one of the respondents earned Doctorate's and Master's degrees. The balance three respondents held a Bachelor's degree. In addition, three of the respondents were 50 years of age and older, one more than 60 years of age, and the balance one less than 40 years of age. The respondents also had vast experienced in the construction sector, three of which had more than 30 years of experience and two of which had less than 30 years of experience.

4.5.1 Pilot Interview

The interview questions were designed to assess and address each of the qualitative measures related to the validated CSFs for successful adoption of CSR agenda in the Malaysian construction sector that emerged from the Delphi process. A standardised set of interview questions has been developed to ensure common approach between interview subjects. The questions corresponded to each of the CSF that emerged from the Delphi study. Asking the same questions to all respondents helped maximise the amount and consistency of information obtained from each interview. The questions were closed and open-ended to allow respondents to express their opinions freely without hindrance.

Due to the small sample size of the actual survey, only one respondent with experience in qualitative research and the subject under study was involved in the pilot study. According to Saunders, Lewis, and Thornhill (2014), no matter how many respondents there are, the most important thing is to pilot the questionnaire with at least some suggestions on the validity of the questionnaire.

A pilot interview was conducted on 20 November 2019 to refine the data collection procedure and the interview questions. The respondent suggested that the scales should be given for each question asked. The reason given was to directly guide the respondents to the questions, since the goal was to evaluate current CSF practices that related to CSR activities. The questions were then modified to include three scales (Yes, Partially, No) to each question being asked. Other comments were made on the

terminology and grammatical mistakes, and have been corrected. The last comment was that at the start of the interview the interviewer should be more relaxed and confident.

4.5.2 Interview Questions

Sixteen questions, each two for each CSF were attempted during the interview section. Respondents were asked to choose the answer that best represents their view on current practices in their firms with regard to CSR. Three scales were given, including “Yes”, “Partially”, and “No” which indicates the practice is being implemented, that part of the practice is being implemented, and that the practice is not being implemented at all. In addition, respondents were also asked to describe further on each of answer given. Sample of the questionnaire displayed in Figure 4.1 with full questionnaire detailed in Appendix L.

Interview Questions			
Please choose the answer that best reflects your opinion about your firm’s current practices on CSR.			
Yes = indicates the practice is implemented			
Partially = indicates that part of the practice is implemented			
No = indicates the practice is not implemented at all			
Yes	Partially	No	Description
CSF1: Financial Resources			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1 Your firm willing to allocate some budget for CSR activities (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.2 Your firm will solve problems of resource requirements regarding to CSR activities, if necessary (please explain).

Figure 4.1 Example of the interview questionnaire

4.5.3 Interview Scheduling

Interviews were scheduled separately depending on the convenience of the respondents. Interviews have been performed over a span of approximately two weeks. The first interview took place on 25 November 2019 and the last one on 7 December 2019. Three interviews commenced at the respondent’s office and two at the café. Table 4.24 outlines the information for the interview.

Table 4.24 Interview Information

Respondent ID	Date and Time	Length (Minutes)	Location
RA	25 November 2019 (14:00)	32	Respondent Office
RB	27 November 2019 (9:30)	28	Respondent Office
RC	30 November 2019 (20:30)	35	Café
RD	5 December 2019 (16:00)	26	Respondent Office
RE	7 December 2019 (21:00)	31	Café

4.5.4 Case Descriptions

Firm A is a professional engineering consulting firm that was incorporated as a Private Limited Company in 2005. The firm offers professional services in the field of civil and structural engineering and related areas to government, industry, developers and construction firms. The firm specializes in civil and structural engineering works such as buildings, structures, bridges, road works, waterworks, earthworks and foundations. Currently, the firm employed less than ten full-time employees and the average annual turnover is between RM5 million to RM10 million. The firm was founded by two professional engineers which extensive experience in the Malaysian construction sector. Both founders have the same vision and mission to expand the business as one of the leading engineering consulting firms in the region.

Company B is also a professional engineering consulting firm, which was founded as a business entity in 2009. The firm offers professional services in the field of civil and structural engineering and related areas to government, industry, developers and construction firms. The firm specialized in civil and structural engineering works such as buildings, bridges, road works, waterworks, earthworks and foundations. Currently, the firm employed less than five full-time employees and the average annual turnover is between RM1 million to RM5 million. The firm is headed by its owner, a professional engineer and intended to adopt CSR in practice.

Firm C is a G7 construction firm and was incorporated as a Private Limited Company in 1997. The firm specialized in waterworks projects and currently employed

less than ten full-time employees. The average annual turnover of the firm is more than RM50 million. The firm is headed by the managing director. The firm also intended to implement a formal CSR in its practices.

Firm D is a G6 construction firm and was incorporated as a Private Limited Company in 2000. The firm specialized in civil and structural engineering construction works such as buildings structures, road works, and waterworks and currently employed less than thirty full-time employees. The average annual turnover of the firm is between RM5 million to RM10 million. The firm is a family business and founded by two brothers. The firm also decided to adopt a formal CSR in practice.

Firm E is a G7 construction firm and was incorporated as a Private Limited Company in 2003. The firm specialized in sewerage works such as sewerage treatment plant and sewerage lines. Currently, the firm employed less than ten full-time employees. The average annual turnover of the firm is more than RM50 million. The firm is headed by the managing director and intended to adopt a formal CSR into practice.

4.5.5 Interview Findings

Interviews with case firms have been held between 25 November 2019 and 7 December 2019. To iterate, the interviews did not aim to explore any other themes rather than what have been identified as the CSFs emerged from the Delphi study. For this reason, this study used the interviewer-administered questions to gather information from the participants as suggested by Saunders, Lewis, and Thornhill (2014). The questionnaire consisted of standardized set of interview questions based on the validated CSFs. Participants were asked to answer “Yes”, “Partially”, and “No” to each statement that related to the current CSR practices in their firms. Then, the interviews ended with open-ended questions to capture more detail information on each of answer given in the structured questions. Four firms represented by their directors and one by its principal. The transcript of the interviews was presented in Appendix O. Key findings from the interviews that related to the validated CSFs emerged from the Delphi study were summarized in the following section.

4.5.5.1 CSF 1 – Financial Resources

Financial resources were the top most essential CSF and represented by two questions. The first question intended to confirm the willingness of case firms to allocate the budget for CSR activities since CSR is voluntary in nature. The second question aimed to confirm the seriousness of case firms in providing the budget for CSR activities.

When asked “Does your firm willing to allocate some budget for CSR activities?”, four participants noted “Yes” and one participant replied “Partially”. Four participants who replied “Yes” described:

We frequently allocated certain budget for CSR activities [...] the amount depend on how much our profit was.

(RA, 56, Director, Firm A)

[...] our firm willing to provide budget for CSR activities.

(RB, 58, Principal, Firm B)

[...] indeed, we given compensate and reward to our staffs who engage with CSR activities.

(RD, 50, Director, Firm D)

[...] we provide allocations for our CSR activities.

(RE, 36, Director, Firm E)

One participant mentioned “Partially” and explained:

[...] depend on our profit.

(RC, 66, Director, Firm C)

When asked “Does your firm will solve problems of resource requirements regarding to CSR activities, if necessary?”, two participants noted “Yes” and the other three participants mentioned “Partially”. Two participants noted “Yes” described:

[...] we provide extra budget to ensure the CSR activities successfully.

(RB, 58, Principal, Firm B)

[...] we will provide if necessary and worthy.

(RD, 50, Director, Firm D)

Three other participants who mentioned “Partially” explained:

[...] we will look what the problems are before we decide what actions should be taken.

(RA, 56, Director, Firm A)

[...] depend on requirements.

(RC, 66, Director, Firm C)

[...] depends on course of action.

(RE, 36, Director, Firm E)

4.5.5.2 CSF 2 – Top Management Support

Top management support was the second top most CSF and represented by two questions attempted to seeks top management understanding on the important of CSR as a competitive tool for their firm, and to addressed the willingness of top management to actively participate and spending time on CSR activities.

When asked “Does top management considers CSR as a competitive tool for the firm?”, all participants noted “Yes”. They explained:

[...] we consider CSR as one of business strategies.

(RA, 56, Director, Firm A)

[...] we see CSR as one of the strategies to remain sustainable in business.

(RB, 58, Principal, Firm B)

[...] we recognised CSR is a new competitive tool for today's businesses to remain sustainable.

(RC, 66, Director, Firm C)

[...] we consider CSR can bring a competitive advantage to a business.

(RD, 50, Director, Firm D)

For me it would be, competitive advantage tool.

(RE, 36, Director, Firm E)

When asked "Does top management gives strong and consistent support to CSR?", all participants noted "Yes". They described:

[...] one of my duties is making decision in every firm's strategies including CSR.

(RA, 56, Director, Firm A)

[...] I give fully support to our CSR activities.

(RB, 58, Principal, Firm B)

[...] decision making on selecting CSR activities to be involved.

(RC, 66, Director, Firm C)

Absolutely, we will give support to CSR activities.

(RD, 50, Director, Firm D)

No doubt, we always support.

(RE, 36, Director, Firm E)

4.5.5.3 CSF 3 – Managerial and Internal Skills on CSR

Managerial and internal skills on CSR was the third CSF and was represented by two questions aimed to seeks the overview on the firm’s competencies, and attempted to seeks the firm’s competencies specifically on CSR.

When asked “Does your firm’s overall managerial or internal skills are accepted?”, all participants noted “Yes”. They described:

[...] overall managerial or internal skills are not the issue in our firm.

(RA, 56, Director, Firm A)

[...] for me, our managerial skills are acceptable for our business.

(RB, 58, Principal, Firm B)

[...] of course, we have excellence internal skills.

(RC, 66, Director, Firm C)

[...] yes, we have adequate internal skills especially on technical sides.

(RD, 50, Director, Firm D)

Skills are not the issues in our firm [...].

(RE, 36, Director, Firm E)

When asked “Does your firm has acceptable managerial or internal skills on CSR?”, both two participants replied “Yes” and “Partially”, and one participant noted “No”. Two participants who mentioned “Yes” clarified:

[...] we fully confident that we have enough expertise that require for conducting CSR activities especially for technical activities.

(RA, 56, Director, Firm A)

From my view, we can conduct any CSR activities with our existing skills.

(RD, 50, Director, Firm D)

Two other participants replied “Partially” and explained:

I think within our scope of works is yes but for more complex CSR activities probably no.

(RC, 66, Director, Firm C)

Need to improve.

(RE, 36, Director, Firm E)

The balance one participant who noted “No” described:

I think we do not have enough skills on a formal CSR [laugh].

(RB, 58, Principal, Firm B)

4.5.5.4 CSF 4 – National Economic Growth

National economic growth was the fourth CSF and assessed by two questions aimed to seeks opinion on the current national economic issues, and to confirmed the effect of current national economic growth to the business.

When asked “Does current economic environment provides good environment for doing business?” all participants replied “No”. They explained:

[...] does not provide good environment for business.

(RA, 56, Director, Firm A)

I see current economic is bad for business.

(RB, 58, Principal, Firm B)

[...] does not favour for business to growth.

(RC, 66, Director, Firm C)

I think it worst condition for business.

(RD, 50, Director, Firm D)

Economic growth is proportionate with business growth.

(RE, 36, Director, Firm E)

When asked “Does current economic growth affects your business?”, all participants replied “Yes”, and explained:

[...] totally affected our business.

(RA, 56, Director, Firm A)

Getting worst [laugh].

(RB, 58, Principal, Firm B)

Absolutely affected.

(RC, 66, Director, Firm C)

[...] affected our business.

(RD, 50, Director, Firm D)

Directly impacted.

(RE, 36, Director, Firm E)

4.5.5.5 CSF 5 – Employee Education and Training on CSR

Employee education and training on CSR was the fifth CSF and assessed by two questions. The first question addressed the firm’s policy on training and development on CSR, and the second question concerned to the specific training toward CSR.

When asked “Is there a regular and structured training program to all employees on CSR?”, both one participant replied “Yes” and “Partially”, and three others participants noted “No”. One participant who noted “Yes” explained:

We have scheduled training programs to our staffs. [...] CSR is part of it.

(RE, 36, Director, Firm E)

Another one participant replied “Partially” and described:

[...] we provided a talk on CSR last year.

(RD, 50, Director, Firm D)

Three other participants noted “No” and explained:

Not necessary at this moment.

(RA, 56, Director, Firm A)

(RB, 58, Principal, Firm B)

We don’t provide any training on CSR.

(RC, 66, Director, Firm C)

When asked “Is there a need for further trainings as to motivate employees towards CSR?”, three participants replied “Yes” and both on participant mentioned “Partially” and “No”. Three participants who replied “Yes” mentioned:

But I think important in the future when we already have a formal CSR.

(RA, 56, Director, Firm A)

[...] if we engage with CSR activities which are more complicated, most probably we need specific training.

(RD, 50, Director, Firm D)

More education is needed.

(RE, 36, Director, Firm E)

One participant who replied “Partially” described:

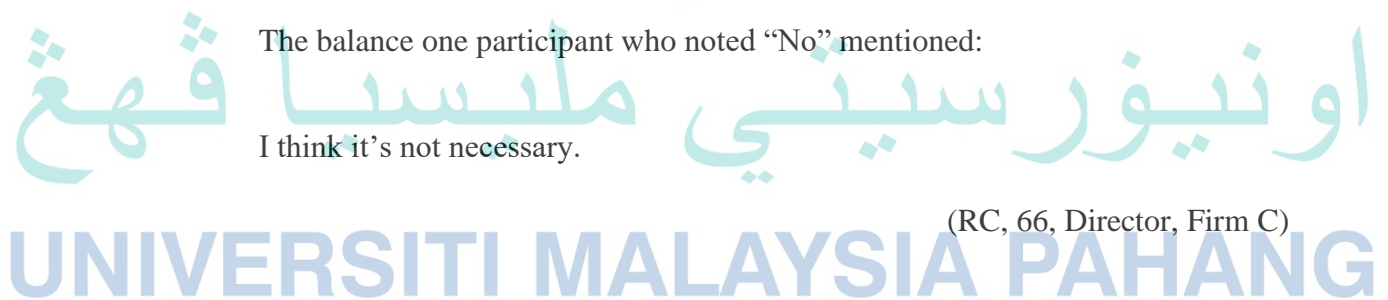
[...] we will consider further training on CSR especially for newly staffs, if necessary.

(RB, 58, Principal, Firm B)

The balance one participant who noted “No” mentioned:

I think it’s not necessary.

(RC, 66, Director, Firm C)



4.5.5.6 CSF 6 – Participation of Key Stakeholders in CSR Process

Participation of key stakeholders in CSR process was the sixth CSF and assessed by two questions. The first question aimed to seeks understanding on firm’s stakeholders, and the second question was concerned on the involvement of firm’s stakeholders in CSR process.

When asked “Does your firm recognised it stakeholders?”, all participants replied “Yes”. They explained:

We considered our stakeholders as individual or group that affect or affected our business.

(RA, 56, Director, Firm A)

[...] our stakeholders include client, end users, contractors, other engineering consultancy firms, local authorities, local society, and so on.

(RB, 58, Principal, Firm B)

General society.

(RC, 66, Director, Firm C)

Who’s benefited and affected by our business activities.

(RD, 50, Director, Firm D)

Firstly, our own employees, then external parties who involved with our firm.

(RE, 36, Director, Firm E)

When asked “Does your firm’s stakeholders involved in CSR process?”, one participant replied “Yes”, three noted “Partially”, and one mentioned “No”. One participant who replied “Yes” described:

Who’s related to the activities is involved.

(RD, 50, Director, Firm D)

Three participants that replied “Partially” stated:

Only those who are specifically involved.

(RA, 56, Director, Firm A)

Only those who are need to involved are participated.

(RB, 58, Principal, Firm B)

Our employees participate directly in CSR activities.

(RE, 36, Director, Firm E)

The balance one participant who noted “No” described:

None at the moment.

(RC, 66, Director, Firm C)

4.5.5.7 CSF 7 – Effective CSR Communication

Effective CSR communication was the seventh CSF. It was assessed by two questions. The first question addressed the existing firm’s communication processes, and the second question concerned on how effectively the firm’s communication with respect to its stakeholders.

When asked “Is a two-ways communication exists in your firm?”, all participants replied “Yes”, and described:

Mostly communication between managers and other employees in our company can be said as two-way communication.

(RA, 56, Director, Firm A)

[...] we encourage our employees to express differences of opinion.

(RB, 58, Principal, Firm B)

[...] took place effectively.

(RC, 66, Director, Firm C)

Effective process through meetings, memos, and others.

(RD, 50, Director, Firm D)

Effective process.

(RE, 36, Director, Firm D)

When asked “Does CSR communication has reaches different stakeholders?”, three participants replied “Yes”, and the two others mentioned “Partially”. Three participants replied “Yes” described:

We used email and personal contact as a CSR communication medium to reach our different stakeholders.

(RB, 58, Principal, Firm B)

I think it's reached to the audients.

(RC, 66, Director, Firm C)

Positive impact towards society needed.

(RE, 36, Director, Firm E)

The balance two participants who replied “Partially” explained:

Only stakeholders who involved in the CSR activity are communicated.

(RA, 56, Director, Firm A)

Currently we focus on internal stakeholders.

(RD, 50, Director, Firm D)

4.4.5.8 CSF 8 – Organisational Structure

Organisational structure was the eighth and final CSF. It was assessed by two questions. The first question aimed to seek type of the current firm's organisational structure and the second question concerned on positioning of individuals and units within the organisational structure.

When asked “Does your firm have a flexible organisational structure?”, all participants replied “Yes”, and explained:

[...] flexibility is a key advantage of our firm. [...] matrix structure.

(RA, 56, Director, Firm A)

We adopt a matrix organisational structure.

(RB, 58, Principal, Firm B)

Matrix organisational structure.

(RC, 66, Director, Firm C)

Our structure able to absorb any changes.

(RD, 50, Director, Firm D)

Flexible and adopting vibrant changes effectively.

(RE, 36, Director, Firm E)

When asked “Does individual positions, units and so on are clustered within organisation unit?”, all participants replied “Yes”, and described:

[...] based on their function or service they work with.

(RA, 56, Director, Firm A)

[...] based on specific task such as administration, business development, design, procurement, and project management.

(RB, 58, Principal, Firm B)

Through departments.

(RC, 66, Director, Firm C)

Divided by departments.

(RD, 50, Director, Firm D)

Based on qualifications and experiences of individuals.

(RE, 36, Director, Firm E)

4.5.6 Member Checking

Lincoln and Guba (1985) recommended member checking as a means of enhancing rigour in qualitative research, implying that credibility is inherent in the accurate descriptions or interpretations of phenomena. In this study “returning the interview transcript to participants” technique was used as a method for member checking. Following the Creswell (2014) and Yin (2009) guidelines, the participants were supplied with copies of the completed analysis in terms of interview transcripts no longer than one week after each interview conducted.

Specifically, the goal of this process was to find out whether the participants agreed with the interpretation of the interview narrative or whether the interviewer misinterpreted the experience of the participants in some way. A copy of the analysis, including each participant’s individual analysis, was sent by email to each participant. Participants were asked to read the transcript and comment about whether the analysis was consistent with their experiences or not. Moreover, they were also being asked if they would like to change something that they did not agreed. Participants were required to return the document within one week.

Three participants responded the email less than a week. They agreed with the analysis without any further comments. The director of Firm A wrote, “I agreed with the analysis and have no further comments” (RA, 2019). The principal of Firm B responded, “Thanks for the feedback. Without any more comments, I was pleased with the analysis” (RB, 2019). Meanwhile, the director of Firm D commented, “I have read the transcript, and it seemed to reflect the actual implementation of CSR in my firm. I have agreed to the analysis and no further comments” (RD, 2019).

A telephone call was made to the two other participants who had yet to respond seeking confirmation on the transcript. They also satisfied with the analysis without any further comments. The director of Firm C mentioned, “I am fine with the analysis” (RC, 2019). Finally, the director of Firm E stated, “The analysis represented the real details of the implementation status of CSR in my firm and I agreed with the analysis” (RE, 2019).

The significant findings from this procedure were that all participants agreed with the transcripts and thus it could be confirmed that the analysis represented the actual status of the CSR activities in their firms. Since the primary objective of member checking was to validate and verify the analysis, the adoption of this procedure may enhance the trustworthiness and rigor of this study.

4.6 Interpretation of the Findings from Interview Survey and Discussion

A qualitative interview survey was used to assess the level of readiness of the Malaysian construction firms to adopt CSR into practice. The question to be answered was: How does the level of readiness of the Malaysian construction firms to adopt corporate social responsibility (CSR) as measured against the validated critical success factors (CSFs)? This question relates to the route to a successful adoption of CSR in the firms. To answer this question, an organisational case study was performed to a group of local construction firms via an interview protocol. Table 4.25 summarizes the interview findings on the readiness of the case firms to adopt CSR into practice and discussed in the subsequent sections.

Table 4.25 Level of Readiness of the Case Firms

No.	Interview Question	Firm A	Firm B	Firm C	Firm D	Firm E
<i>CSF1: Financial resources</i>						
1.1	Your firm willing to allocate some budget for CSR activities.	Yes	Yes	Partially	Yes	Yes
1.2	Your firm will solve problems of resource requirements regarding to CSR activities, if necessary.	Partially	Yes	Partially	Yes	Partially
<i>CSF2: Top management support</i>						
2.1	Top management considers CSR as a competitive tool for the firm.	Yes	Yes	Yes	Yes	Yes
2.2	Top management gives strong and consistent support to CSR.	Yes	Yes	Yes	Yes	Yes
<i>CSF3: Managerial or internal skills on CSR</i>						
3.1	Your firm's overall managerial or internal skills are acceptable.	Yes	Yes	Yes	Yes	Yes
3.2	Your firm has acceptable managerial or internal skill on CSR.	Yes	No	Partially	Yes	Partially
<i>CSF4: National economic growth</i>						
4.1	Current national economic environment provides good environment for doing business.	No	No	No	No	No
4.2	National economic growth affects your business.	Yes	Yes	Yes	Yes	Yes

Table 4.25 Continued

No.	Interview Question	Firm A	Firm B	Firm C	Firm D	Firm E
<i>CSF5: Employees' education and training on CSR</i>						
5.1	There is a regular and structured training program to all employees on CSR.	No	No	No	Partially	Yes
5.2	There is a need for further trainings as to motivate employees towards CSR.	Yes	Partially	No	Yes	Yes
<i>CSF6: Participation of key stakeholders in CSR process</i>						
6.1	Your firm has recognised it stakeholders.	Yes	Yes	Yes	Yes	Yes
6.2	Your firm's stakeholders involved in CSR process	Partially	Partially	No	Yes	Partially
<i>CSF7: Effective CSR communication</i>						
7.1	There is a two-ways communication in the firm.	Yes	Yes	Yes	Yes	Yes
7.2	CSR communication has reaches different stakeholders.	Partially	Yes	Yes	Partially	Yes
<i>CSF8: Organisational structure</i>						
8.1	Your firm have a flexible organisational structure.	Yes	Yes	Yes	Yes	Yes
8.2	Individual positions, units and so on are clustered within organisation unit.	Yes	Yes	Yes	Yes	Yes

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4.6.1 CSF 1 – Financial Resources

Limited financial resources are regarded as the primary barriers to CSR adoption (Horvat, 2015; Shen, Govindan, & Shankar, 2015; Nadeem & Kakakhel, 2016; Agudo-Valiente, Garcés-Ayerba, & Salvador-Figueras, 2017). Indeed, financial constraints were the main obstacles for CSR adoption in the Malaysian construction sector (Kang, Ahmad, Goh, & Song, 2015; Abdullah, Mohandes, Hamid, & Singh, 2016). Partipants have

realized the importance of financial resources to support CSR activities and they are willing to allocate the budget for their CSR activities. In fact, CSR programs have already been carried out in their firms, but only in a small and informal scale. For example, the principal of Firm B mentioned, “[...] it can be viewed from our current and previous involvement in CSR” (RB, 2019). Only Firm C noted that they were partially willing to provide budget for CSR activities as stated by their director, “[...] depend on our profit” (RC, 2019). Most firms have mentioned that they would consider the issues about additional resources needed for CSR activities. For example, the director of Firm A noted, “[...] we will look what the problems are before we decide what actions should be taken” (RA, 2019).

Nonetheless, it is suggested that Malaysian construction firms should allocate special and sufficient funds to their formal CSR programs. The allocation for CSR activities should be included in the firm’s overall budgeting plan. In doing so, firms could allocate some of their earnings from the execution of the project to the CSR funds. As a result, firms are able to make decisions on the scale of the CSR activities to be involved that met the budget. Consequently, firms will be able to control spending on chosen CSR programs and will reduce budget deficit issues. In addition, benefits, such as bonuses for employees employed in CSR, could also be included in the budget.

4.6.2 CSF 2 – Top Management Support

CSR is a strategic tool that must be completely supported by the organisation’s top management. They are the sole authority to ensure that CSR is developed and applied in their organisations (Phan, Baird, & Blair, 2014). The lack of top management support is one of the key obstacles to the adoption of CSR in the Malaysian construction sector (Abdullah, Mohandes, Hamid, & Singh, 2016). In case firms, top management support was not a matter of concern. They are committed to the CSR agenda and completely support CSR initiatives.

All respondents noted that they considered CSR as a competitive tool for their firm and provide strong and consistently supported the CSR agenda. For example, the director of Firm C mentioned, “[...] we recognised CSR is a new competitive tool for today’s businesses to remain sustainable” (RC, 2019). Indeed, the director of Firm E

stated, “No doubt, we always support” (RE, 2019). The findings suggested that the top management of the case firms acknowledged the value of CSR as the strategic competitive tool and the always supported their firms’ CSR activities.

It is suggested that the top management of construction firms should change their approach to CSR in order to make it a strategic competitive tool. Instead of being informal on an ad hoc basis, CSR needs to be a formal program that is an integral part of the business vision and strategy. This paradigm shift would require top management to show leadership in the sense that it is a role model for employees to encourage ethical and moral conduct in the organisation. Top management also needs to push and support the CSR agenda from top to bottom. One way to do this is by assigning responsibility for the execution of the CSR activities to the CSR manager and establishing Key Performance Indicators to measure the effectiveness of CSR programs.

4.6.3 CSF 3 – Managerial or Internal Skills on CSR

CSR activities are not routine jobs, every challenge in CSR needs its own approach, and thus management skills are essential for the design of effective approaches to the implementation of sustainable solutions (Wesselink, Blok, van Leur, Lans & Dentoni, 2015). Evidence has shown that lack of management skills is one of the key obstacles to non-compliance to the formal CSR agenda in the organisation (Nadeem & Kakakhel, 2016; Osagie, Wesselink, Blok, Lans & Mulder, 2016).

All participants remarked that their firms had adequate management or internal skills to run their businesses. One participant, the director of Firm C noted “[...] of course, we have excellence internal skills” (RC, 2019). Another participant, the director of Firm D stated, “[...] yes, we have adequate internal skills especially on technical sides” (RD, 2019). Since the participating firms involved in the construction sector, specific internal skills such as technical skills are mandatorily required. For example, the director of Firm A noted, “Majority of our human resources are engineers with an accumulative experience in the field for more than one hundred years” (RA, 2019). However, when asked about managerial skills on CSR, two of the participants noted that their firms only have partially managerial skills on CSR. The director of Firm C mentioned, “I think within our scope of works is yes but for more complex CSR activities probably no” (RC,

2019) and director of Firm E mentioned that their managerial skills on CSR, “Need to improve” (RE, 2019). Only Firm B declared that they did not have specified managerial skills on CSR. The principal of Firm B mentioned, “I think we do not have enough skills on a formal CSR [laugh]” (RB, 2019).

However, firms must improve their managerial skills on CSR if they want the intended results from CSR. It is suggested that the role of CSR manager be created to assist top management in determining the firm's goals for CSR by offering expertise, advice and guidance and ensuring the successful implementation of CSR. Furthermore, given that CSR is new to firms, it is necessary to improve managerial skills on CSR. This can be achieved through transferable skills and expertise from other related specializations, for instance from environmental management field.

4.6.4 CSF 4 – National Economic Growth

The relationship between national economic growth and CSR is evident in the literature. For example, a study by Ismail, Jaafar and Saleh (2015) found that the level of national economic development is an important variable that influences CSR understanding and practices, developing nations. This was also consistent with the results of Van Scheers (2016), which showed a positive correlation between economic growth and the performance of the firms, especially for SMEs.

All participants reported that the current national economic environment does not favour to their businesses and the national economic growth to large extent affected their business. The director of Firm A mentioned, “[...] the current economic progress does not provide good environment for business” and “The current situation has totally affected our business. [...] number and scale of construction projects in both public and private sectors dropped to record lows” (RA, 2019).

Since construction businesses are often affected by national economic development, it is suggested that companies need to closely track the state of the national economy. This can be achieved by tracking, observing, predicting and evaluating the economic climate in order to detect, track and make decisions on any indicators of economic change that could be beneficial to business. In addition, firms need to be more

responsive to any government programs or policies put in place for the construction sector.

4.6.5 CSF 5 – Employee Education and Training on CSR

Within a knowledge-based society, employees are the most significant competitive element of a firm, because they are the internal stakeholders of a business. Low and Ong (2015) considered that employees have a significant impact on the CSR programs carried out by the organisation and are the driving force behind the organisational CSR (Seivwright & Unsworth, 2016). Because CSR is not a routine task, employees engaged in CSR need the ability, skill or competence to carry out CSR activities that are especially relevant in the early stages of the incorporation of CSR into a firm strategy (von Weltzien Hoivik & Shankar, 2011).

When asked about firm's policy on training and development on CSR, majority of the respondents remarked that their firms do not any policy on the issue. For example, the principal of Firm B noted, "I feel that it is not necessary" (RB, 2019). At the other hand, the director of Firm C mentioned, "[...] we provided a talk on CSR last year (RC, 2019). Meanwhile, the director of Firm E stated "We have scheduled training programs to our staff. [...] CSR is part of it" (RE, 2019). Regarding the specific training on CSR, most of the participants noted that they will consider in the future. The director of Firm A mentioned, "But I think important in the future when we already have a formal CSR" (RA, 2019). Meanwhile, the director of Firm D stated, "[...] if we engage with CSR activities which are more complicated, most probably we need specific training" (RD, 2019). However, the director of Firm C responded, "I think it's not necessary" (RC, 2019).

However, for CSR practice to be valued, the construction firms must initiate to educate their employees. Since CSR is not a routine job and employees who engage in CSR require ability, skill or competence, the firms need to provide them with education and training. With adequate training, they will able to conduct effectively CSR initiatives that carried out by the firm. In this sense, the human resource department can play a critical role in ensuring the success of the CSR agenda embraced by the firm. Through education and training, employees will also appreciate CSR mission of their firm to a

greater degree resulting in more commitment and loyalty to the firm. In addition, education and training must be an ongoing endeavor rather than a one-off activity and must be carried out through a well-established human resource development strategy that encompasses ongoing work-based training.

4.6.6 CSF 6 – Participation of Key Stakeholders in CSR Process

Stakeholder engagement is about opening up opportunities and managing risks. Literature suggested that stakeholder participation is an important part of the CSR agenda of the organisation (Prabhu, 2016; Lane & Devin, 2018). The involvement of key stakeholders in the CSR process was aimed at ensuring the efficacy of CSR initiatives through the exchange of opinions, input and information (Singh, Sethuraman, & Lam, 2017).

Participation of key stakeholders in CSR process was not particularly issued in the case firms. All of the firms recognised their stakeholders. For example, the director of Firm A mentioned, “We considered our stakeholder as individuals or groups that affect or affected our business” (RA, 2019). However, three of the firms mentioned that their stakeholders partially involved in CSR process. For example, the principal of Firm B stated, “Only those who are need to involved are participated” (RB, 2019). Only Firm C did not involve their stakeholders in the CSR process as remarked by the director “None at the moment” (RC, 2019).

It is proposed that firms should classify their stakeholders in the sense that they are directly or indirectly influenced by their business activities. Interactions and inter-relationships with key stakeholders need to be identified. It is important to ensure that all main stakeholders are involved in CSR decisions and activities. It can be started by initiating dialog between key stakeholders as soon as possible before the start of CSR activities.

4.6.7 CSF 7 – Effective CSR Communication

CSR communication, as one of the corporate marketing strategies, needs to be a formal practice in firms. Firms may engage actively in CSR programs, but these efforts

will have little impact on their business unless they are effectively conveyed to their stakeholders (Zatwarnicka-Madura, Siemieniako, Glińska, & Sazonenka, 2019). Thus, perceptions of a firm's position on CSR are affected by its corporate marketing activities, including branding, image building, and communications (Stanaland, Lwin, & Murphy, 2011).

All respondents noted that effective communication exists in their firms. The director of Firm C, for example, stated that their communication, "[...] took place effectively" (RC, 2019). Regarding whether CSR communication has reached different stakeholders, he said "I think it's reached to the audients" (RC, 2019). However, two of the firms reported that their CSR communication partially reaches different stakeholders. For example, the director of Firm D mentioned, "Currently we focus on internal stakeholders" (RD, 2019).

In order to ensure the benefits of CSR, firms need to communicate effectively their CSR agenda by concentrating on CSR marketing. It could be accomplished by establishing a communication plan that is specific, measurable, workable, results-oriented and timely. Firms should also take advantage of the digital communications technology available to support their CSR activities. As a part of marketing strategies, the firms need to provide reports on CSR achievements and then disclose them through hard and soft media to make them available to the public.

4.6.8 CSF 8 – Organisational Structure

Organisational structure is known to be the formal framework within which job is divided, grouped and coordinated (Coulter, 2003). Within this context, the effectiveness of any strategy depends to a large extent on its alignment with the organisational structure (Alam, 2011). Given that CSR is a strategic competitive tool of the business, the adoption of CSR involves organisational adjustments to facilitate its growth and incorporation into business activities and processes. Nonetheless, research in the construction sector has shown the significance of the organisational structure in the light of the need to continually tackle the changes in the operating environment that need construction firms to handle.

All respondents reported that organisational structure was not particular an issue in their firm. The principal of Firm B noted, “We adopt a matrix organisational structure” (RB, 2019). Meanwhile, the director of Firm E, for example, stated, “[...] flexible and adopting vibrant changes effectively” (RE, 2019). Regarding to the positioning of individuals and units within the organisational structure, the director of Firm A noted that “[...] based on their function or service they work with and uses each team to complete a specific task” (RA, 2019). At the other hand, the director of Firm E stated, “Based on qualifications and experiences of individuals” (2019).

Nevertheless, it is recommended that the firms adopt an organisational structure that is more flexible. Through flexibility, firms will be able to deal with changes from the adoption of CSR. However, it should be done on an ongoing basis as CSR is not a regular task. In addition, a separate CSR department should be created. The new department should be led by the CSR manager. The role of responsibilities should then be defined in order to ensure accountability and effective monitoring of results. In doing so, specific roles and duties can be conveniently delegated and interlinked. As a result, CSR activities can be easily organised and tracked.

In summary, the above review presented evidence that the case firms had already implemented either entirely or partially the eight CSFs in their current practice. It could be safe to conclude that Malaysian construction firms are ready to adopt CSR in practice. However, to obtain the full results from CSR adoption, they need to develop their practice in the eight CSFs, financial resources, top management support, managerial or internal CSR skills, national economic growth, employees’ education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. The second research question was then answered.

4.7 Chapter Summary

The results of the data analysis were discussed in Chapter 4. The findings were then interpreted and discussed by comparing the evidence from the literature in which research questions were answered. The study involved two stages of the data inquiry. Each stage responding to each research question that have been developed for the study.

Three iteration rounds of the Delphi-type ranking study were used in the first stage and the organisational case study in the second stage.

In the first stage, data was collected from experts in the Malaysian construction sector, i.e. practitioners and academicians. Sixteen experts, eleven construction sector practitioners and five academicians have officially agreed to participate in the Delphi process. They all met the pre-described requirements of being an expert. A list of twelve factors extracted from literature was included in the initial brainstorming process of Delphi Round 1 questionnaire. The factors were financial resources, top management support, employees' education and training on CSR, participation of key stakeholders in CSR process, integrating CSR visions with organisation's strategy, government support, employee involvement in CSR process, managerial or internal CSR skills, organisational culture, human resources, monitoring and evaluating of CSR activities, and strategic collaboration with suppliers. The questionnaires have been distributed electronically over the Internet. All sixteen expert panellists returned the Delphi Round 1 questionnaire, showing a 100% response rate. In addition, another four additional factors have been suggested by the expert panellists and were accepted. These factors were national political stability, effective CSR communication, organisational structure, and national economic growth.

Fifteen factors consisted of eleven factors that achieved the desired consensus and four additional factors were included in the ranking process of Delphi Round 2 questionnaire. Of the sixteen respondents in Delphi Round 2 process, fourteen responded to the questionnaires, reflecting 87.5% of the response rate. The two expert panellists from the construction sector practitioners' group did not respond in Round 2 to the current workload as the reasons for doing so. The desired consensus has not been achieved in this round as shown by Kendall's W (0.398) which implied the need for further round. In the controlled feedback process of Delphi Round 3, questionnaires were sent to the fourteen expert panellists who replied to the Round 2 survey. All fourteen respondents returned the questionnaire, representing a response rate of 100%. Kendall's W was found to be 0.784, implying that a strong consensus has been achieved.

Significant findings from the Delphi study were that eight factors have achieved consensus and considered as CSFs for the adoption of CSRs in the Malaysian construction market. These include financial resources, top management support, managerial or internal CSR skills, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. It is reasonable to conclude that the successful adoption of CSR in the Malaysian construction sector depends on these eight CSFs, which address the first research question.

In the second stage of the study, an organisational case analysis of five local construction firms was performed. The goal was to assess the level of readiness of Malaysian construction firms to adopt CSR in practice as measured against the validated CSFs that emerged from the Delphi study. Interviews on a one-to-one basis were used to collect information. A group of directors or owners representing five local construction firms was recruited as participants. Both firms intend to adopt CSR. Contrast findings from the case study were that the case firms had either fully or partially incorporated the eight CSFs in their existing practice. It would be safe to conclude that Malaysian construction firms are able and ready to incorporate CSR in their practice. Nevertheless, in order to achieve maximum results from the adoption of CSR, they need to improve their practice in the eight CSFs. The second research question was then answered.

The findings presented in this chapter set the groundwork for the chapter to come. Chapter 5 presents the conclusion and recommendations which concluded the study. The chapter will conclude the overall findings within the framework of the research objectives underlying the study.

CHAPTER 5

CONCLUSION

5.1 Introduction

The primary objective of the current study was an attempted to investigate the measures by which a successful adoption of CSR agenda can be achieved in the Malaysian construction sector. This primary objective was addressed by the following research objectives:

- RO₁: To identify the validated critical success factors (CSFs) that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector as as defined by the Delphi expert panellists.
- RO₂: To assess the level of readiness of the Malaysian construction firms to adopt CSR as measured against the validated CSFs.

This final chapter addresses the overall findings within the framework of the research objectives underpinning the study. The chapter starts by summarizing the key findings of the Delphi study and the organisational case study. Next, the chapter presents the conclusions that meeting the research objectives and their implications for the successful adoption of CSR in the Malaysian construction sector. The contributions and limitations of the current study are discussed and recommendations for future research are also suggested. Finally, the chapter ends with the concluding remarks.

5.2 Key Findings

5.2.1 Findings from Delphi Study

Significant findings from three iterative rounds of the Delphi process indicated that eight factors were considered CSFs for CSR adoption in the Malaysian construction sector. These factors were the top-ranking factors as highly regarded as CSFs, as

suggested by the Delphi panellists, and achieved the desired consensus. Table 5.1 lists the CSFs for CSR adoption in the Malaysian construction sector according to its ranking.

Table 5.1 CSFs for CSR Adoption in the Malaysian Construction Sector

No.	Critical Success Factor	Delphi Ranking
1.	Financial resources	1
2.	Top management support	2
3.	Managerial or internal skills on CSR	3
4.	National economic growth	4
5.	Employee education and training on CSR	5
6.	Participation of key stakeholders in CSR process	6
7.	Effective CSR communication	7
8.	Organisational structure	8

It could be concluded that the successful adoption of CSR depends on eight CSFs, including financial capital, top management support, managerial or internal CSR skills, national economic development, employee recruitment and CSR preparation, involvement of key stakeholders in the CSR process, efficient CSR communication and organisational structure. The findings could be considered to have made a major contribution to the body of knowledge since little is known about the key areas that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector. As a result, the successful adoption of CSR into practice could be expected.

5.2.2 Findings from the Organisational Case Study

The significant findings from an organisational case study of five local construction firms revealed that the eight CSFs for CSR adoption in the Malaysian construction sector namely, financial resources, top management support, managerial or internal skills on CSR, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure were already implemented in the firms. Nevertheless, the practices need to enhance in order to gain maximum results from CSR agenda. It could

be safe to conclude that the Malaysian construction firms are ready to adopt CSR into practice.

Significant findings from the organisational case study were that the eight CSFs namely, financial resources, top management support, managerial or internal CSR skills, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure have been either fully or partially incorporated in the existing practice of the case construction firms. However, the practices of both the eight CSFs need to be improved in order to achieve full outcomes from the CSR agenda. It could be safe to conclude that Malaysian construction firms are able and ready to adopt CSR as one of their corporate strategies.

5.3 Research Conclusions

5.3.1 Research Objective 1

The first research objective was to investigate and validate the CSFs that influence the successful adoption of corporate social responsibility (CSR) agenda in the Malaysian construction sector. Based on the opinions of the Malaysian construction sector experts in three iterative rounds of the Delphi study, the result revealed that eight factors were the CSFs for the adoption of CSRs in Malaysian construction firms. These factors achieved the desired consensus as determined by Kendall's concordance coefficient ($W = 0.784$) which implied a strong agreement among the expert panellists. The CSFs include financial resources, top management support, managerial or internal CSR skills, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. Such factors were the top eight factors ranked as highly regarded as CSFs, as indicated by the Delphi panellists.

With respect to the first research objective and based on the findings from the literature reviews, it could be safely concluded that the findings of this study could provide a better understanding on how to successfully integrate CSR into business strategies of the Malaysian construction firms. It is anticipated that a better understanding

of these CSFs can pinpoint better strategies for CSR adoption in the Malaysian construction sector. Consequently, these CSFs can be acted as the guideline from which the Malaysian construction firms are guided and directed of how to obtain optimal performance from CSR and minimize the risk of the failure. In addition, these CSFs will be able to encourage the firms to make decisions with the usage of optimum resources and efforts.

5.3.2 Research Objective 2

The second research objective was to assess the level of readiness of the Malaysian construction firms to adopt CSR as measured against the identified CSFs. In this regard, an organisational case study of five local construction firms was conducted. In-depth interviews protocol of five respondents, representing each firm used as a means for data inquiry. The respondents were the firms' directors and a principal. They were selected due to their innate knowledge of the firm's vision, strategic direction, and financial status.

Significant findings revealed from the organisational study were that the case firms have already practicing the eight CSFs of either fully or partially in their current practice. It could be safe to conclude that the Malaysian construction firms are ready to adopt CSR into practice. Nevertheless, to gain maximum results from CSR adoption they need to enhance their practice on the eight CSFs namely, financial resources, top management support, managerial or internal CSR skills, national economic growth, employee education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. With respect to the second research objective, recommendations were made to the case firm as stipulates in the following Table 5.2.

Table 5.2 Recommendations for the Case Firm

Critical Success Factors	Recommendations
Financial resources	<ul style="list-style-type: none"> • Allocate enough financial resources for formal CSR activities. • Include incentive such as allowance for staffs who involved in CSR in the CSR budgets.
Top management support	<ul style="list-style-type: none"> • Paradigm shift required in which CSR is an integral part of business vision and strategy. • Demonstrate leadership in the sense that become the role model to the employees in promoting an ethical and moral behaviour in the firm. • Allocate responsibility for CSR implementation to the CSR manager, and establish Key Performance Indicators. • Shift informal CSR agenda to the formal one.
Managerial or internal CSR skills	<ul style="list-style-type: none"> • Establish post for CSR manager • Improve managerial skills on formal CSR
National economic growth	<ul style="list-style-type: none"> • Closely monitor the development of national economy. • Quick response to any Government's programs or policies on the construction sector.
Employee education and training on CSR	<ul style="list-style-type: none"> • Emphasize on human resources development • Regular or schedule trainings on CSR
Participation of key stakeholders in CSR process	<ul style="list-style-type: none"> • Maintain interactions and interrelationships between the key stakeholders • Ensure that all key stakeholders involve in CSR decisions and activities
Effective CSR communication	<ul style="list-style-type: none"> • Focus on CSR marketing • Develop company's website • Provide and publish annual report on websites
Organisational structure	<ul style="list-style-type: none"> • Adopt organisational structure that more flexible • Establish specific department for CSR

In this regard, the case firm must consider all the CSFs in order to ensure the successful adoption of CSR in practice. The recommendations were related to the validated CSFs that influence the successful adoption of CSR adoption in the Malaysian construction sector.

5.4 Research Contributions

The purpose of the current study was to delve deeper into the fairly underdeveloped area of research regarding CSFs for CSR adoption in the construction sector. Specifically, this study was conducted with the aim of investigating the factors critical to the successful adoption of CSR in the Malaysian construction sector through the lens of CSFs concept. The findings are importance in understanding on how the CSR agenda can be successfully adopted by constructions firms in Malaysia.

This study was the first step towards understanding the key areas needed for the successful adoption of CSR in practice. This understanding would allow CSR to be effectively implemented in accordance with the firm strategic objectives and its internal characteristics. It has been argued that successful CSR programs can only be accomplished if the holistic views of CSR are well recognized. As a result, the CSR integration process would be more oriented, smooth and efficient if certain key factors relevant to its integration processes were well defined and aligned with corporate strategic planning. In order to successfully incorporate CSR into corporate strategies, the Malaysian construction firms should considered eight CSFs, namely financial resources, top management support, managerial or internal CSR skills, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure.

5.4.1 Theoretical Contribution

This study contributes to the field by presenting one of the studies in its kind focusing on CSFs for CSR adoption in the Malaysian construction sector. This study examined the key areas needed for the successful adoption of CSR in Malaysian construction firms through the lens of CSFs concept. It is important to the existing literature since to date, the issue of CSFs has gained limited interest in CSR research

(Baumann-Pauly, Wickert, Spence, & Scherer, 2013; Fuzi, Habidin, Hibadullah, Zamri & Desa, 2015). In fact, the study of Xia, Olanipekun, Chen, Xie, and Liu (2018) revealed only four research themes include CSR perception, CSR dimensions, CSR implementation status, and CSR performance, underlying the current CSR research in the construction sector. Thus, it is evidence that approaches to CSR adoption in the construction sector has not been positioned within a clear guideline.

It is therefore, this study provides new insights by addressing a theme that less covered in the literature, hence, could enrich the existing literature on CSR in the construction context. This study depicted that successful CSR adoption in the Malaysian construction sector depends upon eight CSFs including financial resources, top management support, managerial or internal skills on CSR, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure. By Delphi process showing that successful CSR adoption in the construction sector takes place within an internal drive as shown by the CSFs, the findings highlight the potential value of external drives such as regulations and legislations in moving this field of research forward. In a broader context, the study proves that some of the CSFs identified in other sectors are equally applicable in the context of the construction sector. Furthermore, the study reveals that a smaller number of CSFs are preferred over a larger number for the ease of management and monitoring.

5.4.2 Industry Contribution

The construction sector is often publicly criticized as being irresponsible given that a wide range of unethical issues exists and common in the sector. This has called the urgent need for the sector to adopt ethical business philosophies in line with the CSR concept. However, the CSR adoption rate in the construction sector is much lesser which suggests that the sector is lagging behind other industry sectors with regards to CSR adoption. One of the reasons behind the lower adoption rate is due to the absence of CSR adoption frameworks that could assist the construction firms to initiate the practice. This issue was the central factor that motivated the study. This study was the first step in order to understand the crucial factors that lead to successful CSR adoption. With such

understanding, CSR will be able to be successfully adopted in line with the firm strategic objectives and its internal characteristics. Therefore, this study contributes to the Malaysian construction sector in several ways.

On the practical side, this study highlights the benefits of CSR practice in the construction sector that addressed an ethical business philosophy. Subsequently, the negative images of the sector could be eliminated. The outcomes of this study can deepen the understanding of CSR and its adoption process by the Malaysian construction firms. Such deeper understanding could lead to the better adoption process of CSR, which in turn, could have a positive influence over the achievement of the expected results, and could also enhance the image of the Malaysian construction sector as a whole. Thus, the findings could provide a guideline for Malaysian construction firms to consider the key management areas that should be given a special focus which led to the successful adoption of CSR. By considering CSFs, the Malaysian construction firms are guided and directed to a better understanding of how to obtain optimal performance from CSR and minimise the risk of failure. In addition, policymakers in the Malaysian construction sector could consider the findings revealed from this study when promoting CSR agenda or development programmes that adhere to the construction industry way forward. Finally, this study highlights that the CSR agenda could be useful as a strategic competitive tool for construction firms to remain sustainable in business. CSR is a new approach regarding ethical behaviour of a business that can be used as a strategic competitive tool and in turn, leading to enhancement of financial performances by improving market positioning and maintaining a long-term sustainable competitive advantage.

5.5 Assumptions and Limitations

Whereas this study contributes to research by discussing rather underdeveloped theme of CSR research, there are some assumptions and limitations that need to be addressed. The findings thus need to be interpreted closely within its context and provide only an indicative rather than a conclusive given that the current trend of CSR in the construction sector (Loosemore & Lim, 2017). The primary assumption behind this study was that the Malaysian construction sector practitioners and academicians who

participated in the Delphi process were experts in the field, possessed the skills to communicate, honest and accurate in their responses and comments. Thus, it is assumed that the findings revealed from this study could contribute useful and valuable knowledge regarding the research issues.

The limitations of the study are addressed as implicit recommendations for future research. The primary limitation of this exploratory research is its focus on the Malaysian construction sector and its qualitative nature. In addition, most of the measurement factors of the respective constructs were borrowed from cross-disciplinary studies and then re-contextualized in the CEM as a proxy. Therefore, it is acknowledged that the research findings are indicative but not conclusive.

The current study was focused on the Malaysian construction firms. Since the majority of the Malaysian construction firms were SMEs, the scope of this study was limited to construction SMEs. Thus, the results might not apply to the larger construction firms or publicly-listed construction firms since there were mandatory requirements for them to engage in CSR activities and disclose the activities in their annual reports.

The fact that the study was conducted within the Malaysian construction sector implied that the results might generally be limited and cannot be universal generalised. However, the issue does not diminish the contribution of the study. It is due to the general measurement variables under investigation used in this study have been adequately identified and validated in other studies across the broad geographical regions and various industries as well.

The current work focused on the CSFs for CSR adoption in the construction firms determined by a selected panel of the Malaysian construction sector practitioners. It was an investigative process with the primary concern of accurately determining the CSFs. However, the study limitations reflect the restrictions on the study over which I have no control. Therefore, the current study remained limited to the asynchronous feedback gathered from a selected group of panels.

The facts that the current study focused on limited measures of the CSFs for CSR adoption in the Malaysian construction sector were the results of the Delphi process and

a literature search. The nature of a Delphi technique is to gain a better understanding of the issue under study based on the opinions of a selected group of expert panellists, particularly in hopes of discerning possible directions for further research, and as such results cannot necessarily be generalised or seen as the actual state matters in the field. Despite the use of the Delphi method, other constructive methods like observation or interviews with the construction sector practitioners could further assist in highlighting more significant results.

Finally, this study involved in using a convenience sampling technique. This technique advocates only for respondents who are willing and available to participate, and therefore not easy to generalise the findings. In addition, the fact that it is likely that no individual is capable for identifying and quantifying all CSFs for CSR adoption regardless of expertise.

5.6 Recommendations for Future Research

The findings revealed from this study could make a significant contribution to the existing bodies of knowledge in CEM and CSR, even though various limitations encountered. It is practical to suggest possibilities for future research reflected from the limitations indicated in the above section. As noted by Jenkins and Smith (1994), results from any Delphi study should be viewed as a beginning statement and not as a definitive work. Therefore, using this research as a platform, future research efforts could be conducted in several ways.

- i. It is recommended to extend the findings of this study by conducting an empirical survey of the wider stakeholders of the construction sector. Nevertheless, it is important to ensure that the respondents well understand the concept of CSR.
- ii. If these findings can be validated beyond the research setting into another organisational context, the research would make a significant contribution to both management practice and knowledge in terms of how to improve the adoption of CSR into practice within the organisation. Thus, it is suggested to replicate the study in cooperating data from wider geographical regions to improve the external

validity of the instruments and to substantiate results reported by the Malaysian construction sector.

- iii. It is also suggested to replicate the study with a different panel of experts to determine if the effects and recommendations expressed are supported or refuted. For example, to include other construction sector stakeholders such as construction material suppliers, legal practitioners or the bankers as the expert panellists should make the study more interesting.
- iv. One final suggestion is that future studies need to be conducted to test the generalizability of this study's findings across sectors and countries.

5.7 Concluding Remarks

The motivation of this effort is to deal with the question of how to ensure the successful adoption of CSR agenda in the Malaysian construction firms. It was argued that the appropriate first step is by identifying a few key factors that influence the success of such efforts. Understanding the significance and importance of each key factor will facilitate the formulation of CSFs for CSR adoption in the Malaysian construction sector. However, the lack of previous research regarding factors contributing to the successful adoption of CSR and in turn, values for its adoption has provided an indication that CSR adoption processes in the construction sector remain alone from a systematic and holistic view. Therefore, this effort could contribute to the field by presenting one of the studies in its kind focusing on CSFs for CSR adoption in the construction sector within the context of developing countries.

Due to the absence of specific CSFs that characterised to CSR adoption in the construction sector found in literature, a list of potential and relevant factors that may theoretically have a major impact on CSR adoption in the Malaysian construction firms was compiled from literature regardless of sectors or countries as a proxy. Outcomes from an analysis of thirty-three selected studies, twelve potential factors were identified. These factors were considered as critical to the CSR adoption because they may theoretically have a major impact on CSR adoption process. Moreover, these factors have been employed in many previous studies and may possess some validity on their role to CSR

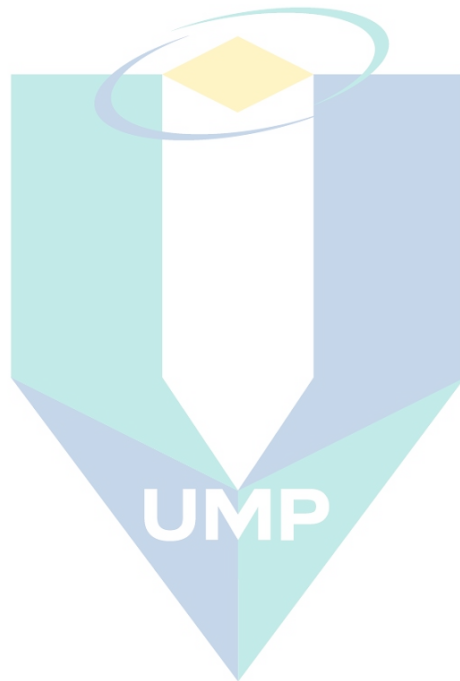
practice. However, while interpreting the potential factors, one may argue that generalization of these factors may not be appropriate in the context of the study since they were gathered from previous studies in different sectors and countries. In addition, there might be other factors contributing to successful CSR adoption considered by different groups of stakeholders. For that reason, the potential critical factors were refined and validated by the use of the Delphi technique.

The Delphi panellists consisted of sixteen Malaysian construction sector experts who qualified as an expert based on the pre-determined criteria. In addition, a pilot study of three experts involved in the construction sector was conducted in advance of recruiting to the full Delphi study. The issues of reliability (dependability), validity, and biases have been well addressed. The findings of three iteration rounds of the Delphi process revealed that eight CSFs have achieved consensus as suggested by the expert panellists. The findings model depicted that successful adoption of CSR in practices depends upon eight CSFs include financial resources, top management support, managerial or internal skills on CSR, national economic growth, employees' education and training on CSR, participation of key stakeholders in CSR process, effective CSR communication, and organisational structure.

Once the CSFs were identified, an effort was made to assess the level of readiness of the Malaysian construction firms. An organisational case study of a group of five local construction firms was conducted. In-depth interview protocol based on a one-to-one basis was used as a means for data inquiry. Before the actual study, a pilot interview was conducted. The issue of trustworthiness was well established. A sample of five respondents was selected among the directors or owners of the case firms. Each one respondent represented each firm. The significant findings were that most of the case firms have already practiced the eight CSFs of either fully or partially in their current practice. It could be safe to conclude that the Malaysian construction firms are ready to adopt CSR into practice. Nevertheless, to gain maximum results from CSR adoption they need to enhance their practice on the eight CSFs.

One final conclusion, the author acknowledged that owing to the exploratory nature of the study, the results are not definitive, they are indicative of a perceived trend. Hence,

the current study has offered numerous limitations, recommendations, and suggestions for future research for generalising the findings.



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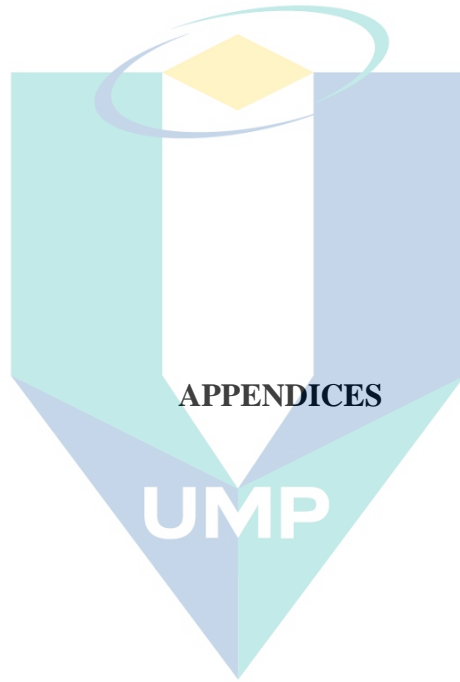
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Appendix A: Publications

The following articles have been published in the Scopus Indexed Journals using data presented in this thesis.

1. Zahidy, A. A., Sorooshian, S., & Hamid, Z. A. (2019). Critical success factors for corporate social responsibility adoption in the construction industry in Malaysia. *Sustainability*, 11(22), 6411. doi: 10.3390/su11226411
2. Zahidy, A. A., & Sorooshian, S. (2019). Call for roadmap for successful adoption of CSR in Malaysian Construction. *International Journal of Innovative Technology and Exploring Engineering*, 8(11), 808-813. doi: 10.35940/ijitee.K1487.0881119
3. Zahidy, A. A., Sorooshian, S., & Mohamad, F. (2019). Conception of critical success factors for corporate social responsibility initiatives in industry. Proceedings of the 1st GCC International Conference on Industrial Engineering and Operations Management, 26-28 November 2019, Riyadh, Saudi Arabia.

The logo of Universiti Malaysia Pahang (UMP) is a large, downward-pointing arrow. The arrow is divided into four quadrants: top-left is light blue, top-right is light green, bottom-left is light purple, and bottom-right is light teal. The letters 'UMP' are written in white, bold, sans-serif font across the center of the arrow.

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Appendix B: Potential Experts' Worksheet

Expert ID	Discipline	Organisation	Email	Contact No.
IND-1	Engineering Consultant	ABC Consultant	abc@gmail.com	xxx xxxxxxxx
IND-2	Contractor	XYZ Sdn Bhd	xyz@gmail.com	xxx xxxxxxxx
ACAD-1	Senior Lecturer	UZM	_@uzm.edu.my	xxx xxxxxxxx
IND-3	Senior Engineer	RKA Consultant	rka@gmail.com	xxx xxxxxxxx
ACAD-2	Senior Lecturer	UXM	_@uxm.edu.my	xxx xxxxxxxx
IND-4	Contractor	XYV Sdn Bhd	xyvl@gmail.com	xxx xxxxxxxx
IND-5	Senior Engineer	KJA Consultant	kja@gmail.com	xxx xxxxxxxx
ACAD-3	Senior Lecturer	UZM	@uzm.edu.my	xxx xxxxxxxx
IND-6	Engineering Consultant	DEF Consultant	def@gmail.com	xxx xxxxxxxx
ACAD-4	Senior Lecturer	UPB	_@upb.edu.my	xxx xxxxxxxx
ACAD-5	Senior Lecturer	UZM	_@uzm.edu.my	xxx xxxxxxxx
ACAD-6	Senior Lecturer	ULT	_@ult.edu.my	xxx xxxxxxxx
IND-7	Engineering Consultant	HKG Consultant	hkg@gmail.com	xxx xxxxxxxx
IND-8	Contractor	JKL Sdn Bhd	jkl@gmail.com	xxx xxxxxxxx
IND-9	Engineering Consultant	KTP Consultant	ktp@gmail.com	xxx xxxxxxxx
ACAD-7	Lecturer	UGH	_@ugh.edu.my	xxx xxxxxxxx
IND-10	Principle	FRU Consultant	fru@gmail.com	xxx xxxxxxxx
IND-11	Contractor	RTI Sdn Bhd	rti@gmail.com	xxx xxxxxxxx
IND-12	Engineering Consultant	LMA Consultant	lma@gmail.com	xxx xxxxxxxx
IND-13	Engineering Consultant	NFS Consultant	nfs@gmail.com	xxx xxxxxxxx
IND-14	Contractor	LBU Sdn Bhd	lbu@gmail.com	xxx xxxxxxxx
ACAD-8	Senior Lecturer	UCA	_@uca.edu.my	xxx xxxxxxxx
ACAD-9	Lecturer	UFC	_@ufc.edu.my	xxx xxxxxxxx
IND-15	Engineering Consultant	VKL Consultant	vkl@gmail.com	xxx xxxxxxxx
ACAD-10	Lecturer	UDC	_@udc.edu.my	xxx xxxxxxxx

Appendix C: Potential Experts' Worksheet for Practitioners Group

Rank	Expert ID	Discipline	Qualification	Experience (Year)	Organisation	Contact No.
1	IND-9	Engineering Consultant	PhD	30	KTP Consultant	Phone, email
2	IND-6	Engineering Consultant	Master	28	DEF Consultant	Phone, email
3	IND-14	Contractor	Master	25	LBU Sdn Bhd	Phone, email
4	IND-12	Engineering Consultant	Master	20	LMA Consultant	Phone, email
5	IND-7	Engineering Consultant	Master	20	HKG Consultant	Phone, email
6	IND-10	Engineering Consultant	PhD	15	FRU Consultant	Phone, email
7	IND-11	Contractor	Master	15	RTI Sdn Bhd	Phone, email
8	IND-13	Engineering Consultant	Bachelor	9	NFS Consultant	Phone, email
9	IND-2	Contractor	Bachelor	35	XYZ Sdn Bhd	Phone, email
10	IND-8	Contractor	Bachelor	32	JKL Sdn Bhd	Phone, email
11	IND-4	Contractor	Bachelor	13	XYV Sdn Bhd	Phone, email
12	IND-5	Engineering Consultant	Bachelor	11	KJA Consultant	Phone, email
13	IND-15	Engineering Consultant	Bachelor	9	VKL Consultant	Phone, email
14	IND-3	Engineering Consultant	Bachelor	8	GFH Consultant	Phone, email
15	IND-1	Engineering Consultant	Bachelor	7	ABC Consultant	Phone, email

Appendix D: Potential Experts' Worksheet for Academicians Group

Rank	Expert ID	Discipline	Qualification	Experience (Year)	Organisation	Contact
1	ACAD-2	Senior Lecturer	PhD	20	UXM	Phone, email
2	ACAD-5	Senior Lecturer	PhD	18	UZM	Phone, email
3	ACAD-3	Senior Lecturer	PhD	16	UZM	Phone, email
4	ACAD-6	Senior Lecturer	PhD	15	ULT	Phone, email
5	ACAD-10	Senior Lecturer	PhD	13	UDC	Phone, email
6	ACAD-8	Senior Lecturer	PhD	11	UCA	Phone, email
7	ACAD-7	Lecturer	PhD	10	UGH	Phone, email
8	ACAD-9	Lecturer	Master	18	UFC	Phone, email
9	ACAD-1	Senior Lecturer	Master	16	UZM	Phone, email
10	ACAD-4	Lecturer	Master	14	UPB	Phone, email

UMP

اونيورسيتي ملايسيا قهغ

UNIVERSITI MALAYSIA PAHANG

INVITATION TO PARTICIPATE IN A DELPHI STUDY

Dear _____,

My name is Anat Anaqie bin Zahidy. I am a Quantity Surveyor, and currently working on a Master research degree with the Faculty of Industrial Management, Universiti Malaysia Pahang. I am writing to request your participation in my research project as an expert panellist. Your experience and expertise would be beneficial to this research. The objective of my research is to identify the critical factors that will ensure the successful implementation of corporate social responsibility (CSR) initiatives in firms operating in the construction industry.

In light of the current increases competition and tougher market conditions experienced by the construction industry, construction firms must be seeking different business strategies to ensure their business sustainable especially in long-term. CSR is about the integration of economic, legal, ethical, and philanthropic responsibilities into business strategies and practices. It has been singled out by many as a strategic tool in which firms can improve their market position and maintain a long-term sustainable competitive advantage if implemented correctly. Thus, a better understanding on how it should be implemented in organisations is significant for a business strategy.

The findings of this research are expected to benefit all firms aspiring to implement successful CSR initiatives that could acts as a competitive tool. Your participation would involve completing three rounds of questionnaires of a Delphi study, which will be conducted anonymously and confidentially. It is expected that this research will benefit you. By participating in this research, you will help generate new knowledge about CSR that will have practical applications in the industry. Further, the results of all the questionnaires will be reported back to you after each round. This way you will gain a unique insight into what other industry leaders (i.e. your fellow participants) think and know about CSR.

Please refer to the attached participant information and consent forms for more details on the research project and how you can participate. If you agree to participate in this research, please sign the attached consent form and return it to me by email.

I look forward to your agreement to participate in this research. Please do not hesitate to contact me should you have any questions. I can be contacted at 019-9824382 or anat.anaqie91@gmail.com.

Kind regards,

ANAT ANAQIE BIN ZAHIDY
Researcher

PARTICIPANT INFORMATION OF THE DELPHI STUDY

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Research's Team:

Researcher	:	Anat Anaqie Zahidy
Contact No.	:	+6019 982 4382
Email	:	anat.anaqie91@gmail.com
Main Supervisor	:	Dr. Fazeeda Mohamad
Contact No.	:	+609-549 2294
Email	:	fazeedamohamad@ump.edu.my

Description

This research is being undertaken as part of Master research project. The primary objective of this research is to explore the measures by which a successful adoption of CSR into practice can be achieved in the Malaysian construction firms. CSR is about the integration of economic, legal, ethical, and philanthropic responsibilities into business strategies and practices. It has been singled out as a strategic tool in which firms can improve their market position and maintain a long-term sustainable competitive advantage, if correctly implemented.

Understanding the crucial factors that lead to a successful implementation of CSR practices is therefore prudent for organisational strategic planning. One concept that gains popularity in strategic management is the critical success factor (CSF), whereby a successful venture is ensured if the few CSFs are satisfactorily achieved. Although there existed many CSFs studies related to CSR practices worldwide but few, if any, studies specific to CSR practices in the construction industry with specifically focus on technical-based consulting firms. Therefore, this study is seen as a strong research opportunity aims at closing this knowledge gap, with a specific emphasis on the needs of a technical-based consulting firm.

Participation

Your participation in this project is voluntary. If you do agree to participate, you can withdraw your participation at any time during the project without any comment or penalty. Your decision to participate will in no way impact upon your current or future relation with UMP.

Your participation will involve three rounds of questionnaires. The questionnaires will be distributed to participants via email. The researcher intends to employ the Delphi research method. The participants are requested to answer the questionnaire and then save the file before sending it back to researcher via email.

It is expected that the questionnaire rounds will 4 to 6 weeks to complete, including data analysis, if participants can response to the questionnaires within 7 days of receipt.

Risks

There are no risks to participants beyond those encountered in everyday life.

Confidentiality

All comments and responses are anonymous and will be treated confidentially and data from this research will be reported only in the aggregate.

Consent to Participate

Please fill the details in last section as a written consent to confirm your agreement to participate in this project.

Questions about the Research

Please contact the researcher if you have any questions or further information needed about this project.

Statement of Consent

I agree to participate in this research, and my details are as the following:

Name	
Current Employment	
Position	
Email	

Please save this file and return it back to researcher via email at anat.anaqie91@gmail.com

UNIVERSITI MALAYSIA PAHANG

DELPHI STUDY

ROUND 1 (PILOT STUDY)

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Thank you once again for serving on the Delphi panel for this research. Your participation is greatly appreciated. To iterate, corporate social responsibility (CSR) is about the integration of economic, legal, ethical, and philanthropic responsibilities into business strategies and practices. Although CSR is a voluntary in nature but if implemented correctly, it can be used as a business strategy for the firms to be more profitable, and the benefits of CSR tend to outweigh the costs. Thus, the objective of this Delphi study is to explore the critical success factors (CSFs) for CSR initiatives in a technical-based consulting firm.

This first round of Delphi study is to brainstorming the potential and relevant factors that are feasible and important to the CSR implementation efforts. This survey should take no more than 45 minutes to complete. Kindly complete the questionnaire within **7 days** of receipt, and please return your completed response via email, in Word format, to anat.anaqie91@gmail.com.

SECTION A: EXPERT'S BACKGROUND INFORMATION

The following questions are intended to confirm your position as an expert. Once validated, the Delphi study responses will be anonymous and all members will be treated equally.

PERSONAL INFORMATION

Name

Current Employment

Designation

Age 20-30 31-40 41-50 <50

Years of Experience 5-10 11-20 21-30 <30

Did you currently involve in any CSR programs?

Yes, officially Yes, unofficially Not at all

ACADEMIC INFORMATION

Please indicate the degrees that you have earned from accredited institutions of higher learning:

Degree	Major/Field of Concentration
<input type="checkbox"/> Diploma	
<input type="checkbox"/> Bachelors	
<input type="checkbox"/> Masters	
<input type="checkbox"/> Doctorate	
<input type="checkbox"/> Other (please specify)	

Please indicate your experience in academicians:

Position	Approximate Number of Years
<input type="checkbox"/> None	
<input type="checkbox"/> Part-time Lecturer	
<input type="checkbox"/> Lecturer	
<input type="checkbox"/> Senior Lecturer	
<input type="checkbox"/> Associate Professor	
<input type="checkbox"/> Professor	
<input type="checkbox"/> Other (please specify)	

PUBLICATION AND CONFERENCE PARTICIPATION

Please indicate your experience in publishing and conference activity in the areas of sustainability:

Activity	Approximate Number
<input type="checkbox"/> None	
<input type="checkbox"/> Peer-reviewed journals	
<input type="checkbox"/> Books or books chapter	
<input type="checkbox"/> Conference presentations	
<input type="checkbox"/> Other (please specify)	

PROFESSIONAL EXPERIENCE

Please indicate your experience in the construction industry:

Position	Approximate Number of Years
<input type="checkbox"/> Contractor	
<input type="checkbox"/> Professional Engineer	
<input type="checkbox"/> Professional Architect	
<input type="checkbox"/> Professional Quantity Surveyor	
<input type="checkbox"/> Engineer	
<input type="checkbox"/> Architect	
<input type="checkbox"/> Quantity Surveyor	
<input type="checkbox"/> Project Manager	
<input type="checkbox"/> Other (please specify)	

Please indicate your professional licensure/certification:

Licensure or Certification	Approximate Number of Years
<input type="checkbox"/> Professional Engineer	
<input type="checkbox"/> Professional Architect	
<input type="checkbox"/> Professional Quantity Surveyor	
<input type="checkbox"/> Project Management Professional	
<input type="checkbox"/> Other (please specify)	

NGO's INVOLVEMENT

Please indicate your involvement in any particular association that related to construction industry:

Association	Position
<input type="checkbox"/> The Institution of Engineers, Malaysia	
<input type="checkbox"/> Malaysian Institute of Architects	
<input type="checkbox"/> Royal Institution of Surveyors, Malaysia	
<input type="checkbox"/> Other (please specify)	

SECTION B: BRAINSTORMING OF CSFs

Based on your expert's opinion, please identify and list the factors that are critical for successful implementation of CSR initiatives in an organisation. In other words, what are the most essential factors that, if satisfactorily achieved, will result in a successful implementation of CSR practices?

As guidance, **Table 1** listed twelve (12) common CSFs extracted from literature review (see **Appendix A** for brief description of the factors). You are required to:

1. Select the factors depicted in **Table 1** that you feel are critical for successful implementation of CSR initiatives by **ticking** the appropriate field. You may select as many as the listed factors. If you feel that all the factors are critical, then you would select all of them.
2. List and describe other factors which have not listed in **Table 1** that you feel are also critical for CSR implementation efforts in the subsequent **Table 2**.

Table 1: Factors that is critical for successful implementation of CSR

No.	CSFs for CSR	Tick
1.	Availability of financial resources	
2.	Top management support	
3.	Employees' education and training on CSR	
4.	Participant of key stakeholders in CSR process	
5.	Integrating CSR vision and initiatives with firm's strategy	
6.	Government support (regulations, incentives, tax breaks, etc.)	
7.	Employee involvement in CSR process	
8.	Managerial or internal CSR skills	
9.	Organisational culture	
10.	Availability of human resource	
11.	Monitoring and communication of the firm's CSR initiatives and advances	
12.	Strategic collaboration with suppliers	

Table 2: Additional factors that are critical for successful implementation of CSR

No.	CSFs for CSR	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Note: The additional factors are not limited to ten factors only. You may list either less than ten or more than ten.

Please give your feedback on this Round 1 questionnaire:

Time to completed the questionnaire: _____ minutes

Are the instructions accurately described? Yes No

If No, please give suggestions for improvement:

General comments on the questionnaire (if any):

Appendix A

Brief Description of CSFs for CSR Implementation Efforts

No.	Critical Success Factor	Description
1.	Availability of financial resources	Investment in CSR incurs extra cost due to it voluntary in nature. Thus, companies who willing to engage in CSR initiatives must have adequate financial resources to bear the cost.
2.	Top management support	Top management has important role in ensuring all company's policies are in place. They are the sole authority in making final decision on CSR's policies. Hence, their support is very crucial in bringing out the expected outcomes from CSR efforts.
3.	Employees' education and training on CSR	Firms need to educate and train employees who directly involved in CSR activities. It will ensure employees' information on the organisation's CSR commitments, programs and implementation.
4.	Participant of key stakeholders in CSR process	Firm has to be transparent towards their stakeholders (shareholders, employees, clients, pressure groups, communities, etc.). They need to be participated in the decision-making process of firm prior deciding to engage in CSR initiatives.
5.	Integration CSR vision and initiatives with firm's strategy	Making CSR an integral part of the firm's strategy will help maintain management's focus on and supporting the activities. Hence, outcomes from CSR initiatives could be expected.
6.	Government support	Government has a role to play towards promoting and enhancing CSR. It can be done through the rules and regulations, and taxes that will encourage firms to adopt CSR practices.
7.	Employees involvement in CSR process	Employees are one of the most pivotal stakeholders of an organisation, hence can influence on organisational effectiveness. Participating of employees in CSR activities process will develop a sense of ownership and pride in the firm's CSR activities, thus increase their level of participation and involvement.
8.	Managerial or internal CSR skills	CSR issues is not a firm's routine job, every challenge in CSR requires its own approach. Thus, management competencies are crucial for designing appropriate approaches towards the realization of such initiatives.
9.	Organisational culture	Organisational culture sets the foundation for CSR implementation. It involves everything that is closely connected with organisation such as value, employees' intercommunions, creating of work atmosphere, and communication with clients.
10.	Availability of human resources	Human resources have a key role to play to help a firm achieving its CSR objectives. Without adequate human resources, CSR practices could not effectively perform.
11.	Monitoring and communication of the firm's CSR initiatives and advances	CSR is ultimately about improving performance. As such, monitoring and communication are important tools to measure the effectiveness of CSR practices in place.
12.	Strategic collaboration with suppliers	Collaboration with suppliers aim at driving and creating more sustainable value in procurement. Hence, it could support firm on the CSR journey and magnify the impact of such efforts through minimisation of risks as well as the delivery of value through the supply chain.

DELPHI STUDY

ROUND 1

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Thank you for serving as the Delphi panel for this study. Your participation is greatly appreciated. To iterate, corporate social responsibility (CSR) is about the integration of economic, legal, ethical, and philanthropic responsibilities into business strategies and practices. Although CSR is a voluntary in nature but if implemented correctly, it can be used as a business strategy for the firms to be more profitable, and the benefits of CSR tend to outweigh the costs. Thus, the objective of this Delphi study is to explore the critical success factors (CSFs) for CSR initiatives in the Malaysia construction industry.

This first round of Delphi study is to be brainstorming the potential and relevant factors that are feasible and important to the CSR implementation efforts. This survey should take no more than 30 minutes to complete. Kindly complete the questionnaire within **7 days** of receipt, and please return your completed response via email, in Word format, to anat.anaqie91@gmail.com.

SECTION A: EXPERT'S BACKGROUND INFORMATION

PERSONAL INFORMATION

Name

Current Employment

Designation

Age 20-30 31-40 41-50 >50

Years of Experience 5-10 11-20 21-30 >30

Do you have experience in CSR programs or sustainability?

Involve in research and teaching on the topics related to CSR or sustainability or construction industry (environmental management and sustainability, environmental engineering, sustainable highway, and others) or involve in sustainable development projects (environmental impact assessment, green buildings, sustainable highway, industrial building systems, and others). Engaging in students' internship programs, for example, is also considered as one of unofficial CSR activities.

Yes, officially

Yes, unofficially

Not at all

ACADEMIC INFORMATION

Please indicate the degrees that you have earned from accredited institutions of higher learning:

Degree	Major/Field of Concentration
<input type="checkbox"/> Diploma	
<input type="checkbox"/> Bachelors	
<input type="checkbox"/> Masters	
<input type="checkbox"/> Doctorate	
<input type="checkbox"/> Other (please specify)	

Please indicate your experience in academicians:

Position	Approximate Number of Years
<input type="checkbox"/> None	
<input type="checkbox"/> Part-time Lecturer	
<input type="checkbox"/> Lecturer	
<input type="checkbox"/> Senior Lecturer	
<input type="checkbox"/> Associate Professor	
<input type="checkbox"/> Professor	
<input type="checkbox"/> Other (please specify)	

PUBLICATION AND CONFERENCE PARTICIPATION

Please indicate your experience in publishing and conference activity in the areas of CSR or sustainability:

Activity	Approximate Number
<input type="checkbox"/> None	
<input type="checkbox"/> Peer-reviewed journals	
<input type="checkbox"/> Books or books chapter	
<input type="checkbox"/> Conference presentations	
<input type="checkbox"/> Other (please specify)	

PROFESSIONAL EXPERIENCE

Please indicate your experience in the construction industry:

Position	Approximate Number of Years
<input type="checkbox"/> Contractor	<input type="text"/>
<input type="checkbox"/> Professional Engineer	<input type="text"/>
<input type="checkbox"/> Professional Architect	<input type="text"/>
<input type="checkbox"/> Professional Quantity Surveyor	<input type="text"/>
<input type="checkbox"/> Engineer	<input type="text"/>
<input type="checkbox"/> Architect	<input type="text"/>
<input type="checkbox"/> Quantity Surveyor	<input type="text"/>
<input type="checkbox"/> Project Manager	<input type="text"/>
<input type="checkbox"/> Other (please specify)	<input type="text"/>

Please indicate your professional licensure/certification:

Licensure or Certification	Approximate Number of Years
<input type="checkbox"/> Professional Engineer	<input type="text"/>
<input type="checkbox"/> Professional Architect	<input type="text"/>
<input type="checkbox"/> Professional Quantity Surveyor	<input type="text"/>
<input type="checkbox"/> Project Management Professional	<input type="text"/>
<input type="checkbox"/> Other (please specify)	<input type="text"/>

NGO's INVOLVEMENT

Please indicate your involvement in any particular association that related to construction industry:

Association	Position
<input type="checkbox"/> The Institution of Engineers, Malaysia	<input type="text"/>
<input type="checkbox"/> Malaysian Institute of Architects	<input type="text"/>
<input type="checkbox"/> Royal Institution of Surveyors, Malaysia	<input type="text"/>
<input type="checkbox"/> Other (please specify)	<input type="text"/>

SECTION B: BRAINSTORMING OF CSFs

Based on your expert's opinion, please identify and list the factors that are critical for successful implementation of CSR initiatives in an organisation. In other words, what are the most essential factors that, if satisfactorily achieved, will result in a successful implementation of CSR practices?

For guidance, **Table 1** listed twelve (12) common CSFs extracted from literature review (see **Appendix A** for brief description of the factors). You are required to:

1. Select the factors depicted in **Table 1** that you feel are critical for successful implementation of CSR initiatives by **ticking** the appropriate field. You may select as many as the listed factors. If you feel that all the factors are critical, then you would select all of them.
2. List and describe other factors which have not listed in **Table 1** that you feel are also critical for CSR implementation efforts in the subsequent **Table 2**.

Table 1: Factors those are critical for CSR implementations success

No.	CSFs for CSR	Tick
CSF 1	Financial resources	
CSF 2	Top management support	
CSF 3	Employees' education and training on CSR	
CSF 4	Participant of key stakeholders in CSR process	
CSF 5	Integrating CSR vision and initiatives with firm's strategy	
CSF 6	Government support	
CSF 7	Employees' involvement in CSR process	
CSF 8	Managerial or internal CSR skills	
CSF 9	Organisational culture	
CSF 10	Human resources	
CSF 11	Monitoring and evaluating of the firm's CSR activities	
CSF 12	Strategic collaboration with suppliers	

Table 2: Additional factors that you feel are critical for CSR implementations success

No.	CSFs for CSR	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Note: The additional factors are not limited to ten factors only. You may list either less than ten or more than ten.

Thank you for completing the Round 1 Delphi questionnaire. Please save this file and return it back to researcher via email at anat.anagie91@gmail.com.

Brief Description of CSFs for CSR Implementation Efforts

No.	Critical Success Factor	Description
1.	Financial resources	Investment in CSR incurs extra cost due to it voluntary in nature. Thus, companies who willing to engage in CSR initiatives must have adequate financial resources to bear the cost.
2.	Top management support	Top management has important role in ensuring all company's policies are in place. They are the sole authority in making final decision on CSR's policies. Hence, their support is very crucial in bringing out the expected outcomes from CSR efforts.
3.	Employees' education and training on CSR	Firms need to educate and train employees who directly involved in CSR activities. It will ensure employees' information on the organisation's CSR commitments, programs and implementation.
4.	Participant of key stakeholders in CSR process	Firm has to be transparent towards their stakeholders (shareholders, employees, clients, pressure groups, communities, etc.). They need to be participated in the decision-making process of firm prior deciding to engage in CSR initiatives.
5.	Integration CSR visions with firm's strategy	Making CSR an integral part of the firm's strategy will help maintain management's focus on and supporting the activities. Hence, outcomes from CSR initiatives could be expected.
6.	Government support	Government has a role to play towards promoting and enhancing CSR. It can be done through the rules and regulations, and taxes that will encourage firms to adopt CSR practices.
7.	Employees' involvement in CSR process	Employees are one of the most pivotal stakeholders of an organisation, hence can influence on organisational effectiveness. Participating of employees in CSR activities process will develop a sense of ownership and pride in the firm's CSR activities, thus increase their level of participation and involvement.
8.	Managerial or internal CSR skills	CSR issues is not a firm's routine job, every challenge in CSR requires its own approach. Thus, management competencies are crucial for designing appropriate approaches towards the realization of such initiatives.
9.	Organisational culture	Organisational culture sets the foundation for CSR implementation. It involves everything that is closely connected with organisation such as value, employees' intercommunions, creating of work atmosphere, and communication with clients.
10.	Human resources	Human resources have a key role to play to help a firm achieving its CSR objectives. Without adequate human resources, CSR practices could not effectively perform.
11.	Monitoring and evaluating of the firm's CSR activities	CSR is ultimately about improving performance. As such, monitoring and communication are important tools to measure the effectiveness of CSR practices in place.
12.	Strategic collaboration with suppliers	Collaboration with suppliers aim at driving and creating more sustainable value in procurement. Hence, it could support firm on the CSR journey and magnify the impact of such efforts through minimisation of risks as well as the delivery of value through the supply chain.

DELPHI STUDY

INTRODUCTORY

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Introduction

Corporate Social Responsibility (CSR) is about the integration of economic, legal, ethical, and philanthropic responsibilities into business strategies and practices. The rising of public pressures for transparency and social accountability has called for businesses to redefine their role to include the responsibilities toward society and environment along with its financial goals. Hence, CSR has gaining an important and progressing topic in modern business.

Although CSR is a voluntary in nature, but it has been singled out by many scholars as a strategic tool in which firms can improve their market position and maintain a long-term sustainable competitive advantage. Research has shown that, if implemented correctly, CSR can be used as a business strategy for the firms to be more profitable, and the benefits of CSR tend to outweigh the costs. However, in order to fully benefit from CSR efforts, a better understanding on how it should be implemented in an organisation is important for a business. Thus, understanding the crucial factors that lead to a successful implementation of CSR practices is prudent for organisational strategic planning.

One concept that gains popularity in management is the critical success factor (CSF), whereby a successful venture is ensured if the few CSFs are satisfactorily achieved. Hence, identifying CSFs will facilitate focused monitoring on only a few key areas of the business, from which performance indicators may be established, benchmarked, and monitored. However, studies specific to CSR practices in the construction industry are scarce in number, especially with specific focus on a technical-based consulting firm.

In this research, the Delphi method will be used to generate a list of CSFs for the implementation of CSR initiatives. The research data, i.e. opinions from experts in the construction industry, will be collected by means of several rounds of questionnaires, which generates a series of qualitative and quantitative data for analysis. The analysis findings will then determine the form and content of subsequent questionnaires, and so on until the group opinion is formed and is stable. The Delphi study will be conducted in three rounds, as outlined below.

ROUND 1: The first round of the Delphi study will involve brainstorming of CSFs. It aims to identify the most appropriate factors that are feasible and important to the successful implementation of CSR initiatives. This first round in not expected to take you more than 45 minutes.

ROUND 2: The second round of the Delphi study will involve ranking the important of CSFs emerged from the previous round. This round could not take more than 30 minutes.

ROUND 3: The third and final round of Delphi study will involve refining the CSFs list emerged from the second-round study. This final round is not expected to take more than 30 minutes.

Participating in the Study

You have been selected as a member of the Delphi expert panel. Over the next few weeks, you will be asked to complete three rounds of questionnaires. At the end of this period, the results of the questionnaires will be made available to you as token of gratitude for your contribution (upon request).

Your participation is on a voluntary basis. Below are the conditions of voluntary participation:

- Confidentiality
- Anonymity
- Not asked to divulge any business sensitive information

The first round Delphi questionnaire can be found overleaf. The questionnaire should take no more than one hour to complete. Kindly return the completed questionnaire within 7 days of receiving the questionnaire.

Many thanks in advance for your time and contribution. If you have any questions about the research, please do not hesitate to contact the undersigned.

Kind Regards,

ANAT ANAQIE BIN ZAHIDY

Phone : +609 513 7799

Mobile : +6019 982 4382

Email : anatanaqie.ump@gmail.com

Main Supervisor:

Dr. Fazeeda Mohamad

Senior Lecturer

Faculty of Industrial Management

Universiti Malaysia Pahang

Lebuhraya Tun Razak

26300 Gambang

Kuantan, Pahang Darul Makmur

Tel.: +609-549 3237

Email: fazeedamohamad@ump.edu.my

DELPHI STUDY

ROUND 2

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Thank you for completing the Delphi Round 1 survey. We recognize that the survey required a significant time investment to complete thoughtfully and we are very appreciating of your time and effort. This Round 2 survey continues the Delphi process for this study. In previous Round 1 survey, you have identified and listed the critical success factors (CSFs) for corporate social responsibility (CSR) initiatives in the construction firms.

In this Round 2 survey, you are required to rank the identified CSFs that you think are most important for CSR implementation efforts. It is expected to be completed no more than 30 minutes. Kindly complete the questionnaire within **7 days** of receipt, and please return your completed response via email, in Word format, to anat.anaqie91@gmail.com.

RANKING OF CRITICAL SUCCESS FACTORS

In the previous Round 1 survey, you and other panellists have identified and listed a number of common CSFs for CSR implementation efforts. As a result, the following table (see Appendix A for brief description) listed fifteen (15) CSFs that are correlated well with existing literature for further analysis. In this Round 2 survey, for each of the identified CSFs you are requiring ranking them according to their importance.

Please carefully rank the CSFs in order of decreasing importance (1 – most importance, 16 – least importance). For example, if you feel that the **CSF 2** is the most contributing factor to the successful implementation of CSR, then you would rank it as **1**. If you feel that the **CSF 5** is the least important in term of contributing to the successful implementation of CSR, then you would rank it **15**. Please consider only one scale for each factor.

No.	CSFs for CSR	Rank (1 to 15)
1.	Integrating CSR vision and initiatives with firm's strategy	
2.	Top management support	
3.	Managerial or internal CSR skills	
4.	Participant of key stakeholders in CSR process	
5.	Financial resources	
6.	Effective CSR communication	
7.	Employee' involvement in CSR process	
8.	Organisational culture	
9.	Employees' education and training on CSR	
10.	Monitoring and evaluating of the firm's CSR activities	
11.	Strategic collaboration with suppliers	
12.	Political stability	
13.	Government support	
14.	Organisational structure	
15.	National economic growth	

Note: 1 – most importance, 16 – least importance

END OF QUESTIONNAIRE

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Thank you for completing the Round 2 Delphi questionnaire. Please save this file and return it back to researcher via email at anat.anaqie91@gmail.com.

DELPHI STUDY

ROUND 3

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Thank you for completing the Delphi Round 2 survey. We recognize that the survey required a significant time investment to complete thoughtfully and we are very appreciating of your time and effort. This Round 3 survey continues the final stage of Delphi study. The purpose of this final Round 3 survey is to provide you with the opportunity to change your response, if desired. It is intended to be completed in approximately 15-30 minutes as you are only being asked to review your previous responses. The collective group response in term of median and mean is given for each factor for your reference. Kindly complete the questionnaire within **7 days** of receipt, and please return your completed response via email, in Word format, to anat.anaqie91@gmail.com.

INSTRUCTION

In the previous Round 2 questionnaire, you have ranked the CSFs in order of importance. In this final round, your ranking will be compared with other Delphi's panellists. You are asked to re-rank the CSF's by considering the opinions of others in the group.

For each CSFs (**Table 1** and describes in **Appendix A**) you will guild with three (3) values, namely the group median, the group mean, and your response of the previous Round 2 survey (indicated in bold). After considering these three (3) values, please take one of the following three actions:

1. Accept the group mean and ranking by leaving the entire field completely unchanged, or
2. Maintain your original response by ticking the highlighted field, or
3. Indicate your new response in the provided field.

For example, in Round 2, you have had ranked CSR 2 (Top management support) in Rank 1, indicates the most essential success factor. However, the collective group response indicated the factor in Rank 2. You have a choice to follow the group ranking or stick to your original rank or change to a new ranking.

Table 1: Re-ranking of CSFs for CSR Initiatives

Item	CSF for CSR	Group Mean	Group Median	Group Rank	Your Current Rank	Your New Rank	Reasons if Changed
1.	Employees' involvement in CSR process						
2.	Financial resources						
3.	Employees' education and training on CSR						
4.	Effective CSR communication						
5.	Integrating CSR vision and initiatives with firm's strategy						
6.	Government support						
7.	Top management support						
8.	Managerial or internal CSR skills						
9.	Organisational culture						
10.	Monitoring and evaluating the firm's CSR activities						
11.	Political stability						
12.	Strategic collaboration with suppliers						
13.	National economic growth						
14.	Organisational structure						
15.	Participant of key stakeholders in CSR process						

Note: 1 – most importance, 15 – least importance

Thank you for completing this final round of Delphi study. Please save this file and return it back to researcher via email at anat.anaqie91@gmail.com. Your cooperation and time investment in participating in this study are very much appreciated.

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Appendix K: Data Breakdown Structure Worksheet

Delphi Round 1

Panel	Panellist	Question											
		1	2	3	4	5	6	7	8	9	10	11	12
IND	1	/	/	/	/		/	/	/	/		/	/
IND	2	/	/	/	/	/	/	/	/	/		/	/
IND	3	/	/	/	/	/	/	/	/			/	/
IND	4	/	/	/	/	/	/	/	/	/	/	/	/
IND	5	/	/		/	/	/	/	/	/	/	/	/
IND	6	/	/	/	/		/	/	/	/		/	/
IND	7		/	/		/	/	/		/	/		/
IND	8	/		/	/	/	/	/	/	/			
IND	9	/	/			/	/	/	/		/	/	/
IND	10	/		/	/	/	/		/	/	/	/	/
IND	11	/	/		/		/	/	/	/		/	
ACAD	12	/	/	/	/	/		/		/	/	/	/
ACAD	13		/		/		/	/	/		/	/	/
ACAD	14	/		/	/		/	/	/		/	/	/
ACAD	15	/	/		/		/		/	/		/	/
ACAD	16	/	/	/	/		/	/	/		/	/	/
Frequency		14	13	11	14	9	13	11	14	11	8	13	13
Percentage		87.5	81.2	68.7	87.5	56.2	81.2	68.7	87.5	68.7	50.0	81.2	81.2

Appendix K: Continued

Delphi Round 2

Panel	Panellist	Question														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IND	1	1	4	3	8	6	12	7	2	11	9	15	13	10	5	14
IND	2	1	2	8	9	10	13	11	3	7	14	15	6	5	12	4
IND	3	1	2	3	4	9	5	12	10	11	13	15	8	7	14	6
IND	4	1	4	3	8	6	12	7	2	11	9	15	13	10	5	14
IND	5	1	2	8	14	11	10	7	3	13	15	12	9	5	6	4
IND	6	1	2	10	4	12	1	5	8	9	13	11	14	3	7	6
IND	7	1	3	11	12	9	13	8	10	7	14	15	4	6	5	2
IND	8	1	4	3	8	6	12	7	2	11	9	15	13	10	5	14
IND	9	1	3	2	5	8	4	10	6	9	7	15	13	14	11	12
ACAD	10	1	6	11	3	13	9	15	10	2	7	14	12	5	8	4
ACAD	11	1	5	12	6	9	7	11	8	10	13	15	3	4	14	2
ACAD	12	3	4	11	9	12	5	13	14	10	15	6	2	8	7	1
ACAD	13	2	1	12	13	14	15	10	11	8	4	3	7	6	5	9
ACAD	14	4	2	7	3	10	1	9	8	13	12	15	6	11	14	5

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Appendix K: Continued

Delphi Round 3

Panel	Panellist	Question														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IND	1	1	4	3	8	6	12	7	2	11	9	15	13	10	5	14
IND	2	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
IND	3	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
IND	4	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
IND	5	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
IND	6	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
IND	7	1	2	7	3	11	4	8	9	12	15	14	10	13	6	5
IND	8	1	2	5	6	8	10	7	3	11	14	13	15	9	4	12
IND	9	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
ACAD	10	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
ACAD	11	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4
ACAD	12	3	4	2	9	12	5	13	14	10	15	6	11	8	7	1
ACAD	13	2	1	3	13	14	15	10	4	8	11	12	9	6	5	7
ACAD	14	1	2	5	7	13	9	11	3	12	14	15	10	6	8	4

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PARTICIPANT INFORMATION OF THE CASE STUDY

Critical Success Factors for Corporate Social Responsibility Adoption in the Malaysian Construction Sector

Research's Team:

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Description

This research is being undertaken as part of Master research project. The primary objective of this research is to explore the measures by which a successful adoption of CSR into practice can be achieved in the Malaysian construction firms. CSR is about the integration of economic, legal, ethical, and philanthropic responsibilities into business strategies and practices. It has been singled out as a strategic tool in which firms can improve their market position and maintain a long-term sustainable competitive advantage, if correctly implemented. The second stage of my study is to assess the readiness of the Malaysian construction firms to adopt CSR as measure against the previously identified CSFs. In doing so, an interview will be performed and your firm have been chosen.

Description of Procedures

If you agree to participate, Mr. Anat Anaqie will interview you for no longer than forty-five minutes. You will be presented with the interview guide ahead of time. The full interview will be recorded. You will be identified by a pseudonym for the study and your information will be protected before, during, and after this research project. During the interview process, you may skip any questions that you do not wish to answer. Your participation will last for the amount of time that the interview takes. After the interview, the audio recording will be transcribed, and you will be presented with a copy of the transcript for your review. This will be delivered via an e-mail to the address that you

provide to me. After that, your participation will be over. At the conclusion of the dissertation research, you will be provided a write-up of the findings from the study.

Risks

There are no known or foreseeable risks for participation in this study.

Benefits

If you decide to participate in this study, there are no personal advantages to participation. It is hoped that the information gained in this study will benefit the Malaysian construction sector in relation to promoting CSR agenda.

Costs and Compensation

You will not have any costs related to participating in this study, other than the time you spend during the interview and reviewing the interview transcript. The time you spend as a participant in this study is voluntary.

Participant Rights

Your participation in this study is completely voluntary and you may initially refuse to participate or stop participating in the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or detrimentally affect your relationship with the researcher, his supervisors, and/or Universiti Malaysia Pahang.

Confidentiality

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. To ensure confidentiality to the extent permitted by law, the following measures will be taken:

1. Your interview will be recorded and transcribed but you will be identified in the transcripts and on tape with a pseudonym.
2. The data will be stored on a password-protected computer in a locked room at all times.
3. The data only will be kept until the completion and publication of the study. If the results are published, your identity will remain confidential.

Questions or Problems

You are encouraged to ask questions or express your concerns at any time during this study.

For further information about the study, contact primary investigator Anat Anaqie at 019-9824382 or anat.anaqie91@gmail.com.

Statement of Consent

Your signature below indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given time to read this document, and that your questions have been satisfactorily answered. You will receive a copy of the written informed consent prior to your participation in the study.

I agree to participate in this research, and my details are as the following:

Name	
Current Employment	
Position	
Email	

Please save this file and return it back to researcher via email at anat.anaqie91@gmail.com

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Appendix M: Interview Guide

Interview Opening

Assalamualaikum warahmatullahi wabarakatuh.....(Respondent name).

Thank you so much for agreeing to speak with me. I know you have a busy schedule and really appreciate your willingness to participate in the interview aspect of my study.

Firstly, I would like to introduce myself. My name is Anat Anaqie Zahidy. I am a master student from Universiti Malaysia Pahang. As I have mentioned to you before, my study seeks to understand the measures by which a successful adoption of CSR agenda can be achieved in the Malaysian construction sector.

In the first stage of my study, I identified eight critical success factors for CSR adoption in construction sector including financial resources, top management support, managerial or internal skills on CSR, national economic growth, employees' education and training on CSR, participating of key stakeholders in CSR process, effective CSR communication, and organisational structure.

The second stage of my study is to assess the readiness of the Malaysian construction firms to adopt CSR as measure against the previously identified CSFs. In doing so, an interview will be performed and your firm have been chosen. Our interview today will last approximately not between 30 to 45 minutes during which I will be asking you about your firm current attributes against the CSFs. If at any time you have questions, please stop me, and I will attempt to explain further.

Your participation is strictly voluntary and may be discontinued at any time during the interview. You may also decline to answer any question during this interview. Any information you share will not be attributed to you or used to identify you or anyone else. You will remain anonymous in any ensuing presentations or publications that may stem from this study. As a result of your participation, there should be no risks for you personally or for your firm.

For ease of note taking, getting all of your input, and not slowing down the interview, I would like to record our conversation. The recording made today will be kept confidential and in a safe place. The only people that will hear the audio recording will be me and the person who transcribes our conversation. It will be kept in a secure location and destroyed when the study is complete. If at any time you would prefer that I turn the recorder off, please let me know, and I will do so immediately.

Have you signed the participating consent form?

Any questions before we begin?

Do I have your permission to begin recording our discussion?

Demographics Questions

Name of Firm			
Nature of Business			
If contractor, please specify registration classification:	G1	G2	G3 G4 G5 G6 G7
Year of Establishment			
No. of Employees			
Average Annual Turnover	< 1m	1m-5m	5m-10m 10m-20m 20m-50m >50m
Name of Interviewee			
Designation			
Education			
Year of Experience		Age	

Interview Questions

Please choose the answer that best reflects your opinion about your firm's current practices.

You may select YES if the practice is already implemented in your firm.

You may select PARTIALLY if a part of the practice is implemented in your firm.

You may select NO if the practice is implemented at all in your firm.

Yes	Partially	No	Items
CSF1: Financial Resources			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.1 Your firm willing to allocate some budget for CSR activities (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.2 Your firm will solve problems of resource requirements regarding to CSR activities, if necessary (please explain).
CSF2: Top Management Support			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.1 Top management considers CSR as a competitive tool for the firm (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.2 Top management gives strong and consistent support to CSR program (please explain).
CSF3: Managerial or Internal CSR Skills			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.1 Your firm's overall managerial or internal skills is acceptable (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.2 Your firm has acceptable managerial or internal skill on CSR (please explain).

Yes	Partially	No	Items
			CSF4: National Economic Growth
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.1 Current national economic environment provides good environment for doing business (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.2 National economic growth affects your business (please explain).
			CSF5: Employees' education and training on CSR
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.1 There is a regular and structured training program to all employees on CSR (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.2 There is a need for further trainings as to motivate employees towards CSR (please explain).
			CSF6: Participating of Key Stakeholders in CSR Process
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.1 Your firm has recognised its stakeholders (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.2 Your firm's stakeholders involved in CSR process (please explain).
			CSF7: Effective CSR Communication
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.1 There is a two-ways communication in the firm (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.2 CSR communication has reached different stakeholders (please explain).
			CSF8: Organisational Structure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.1 Your firm has a flexible organisational structure (please explain).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.2 Individual positions, units and so on are clustered within organisation unit (please explain).

Interview Closing

Is there anything that I did not ask you that you would like to share?

Thank you so much for participating in this interview. I appreciate your time and thoughts.

If you have any further questions for me, please do not hesitate to contact me at any time. A written transcript of this interview will be made available to you to verify accuracy of your views and experiences. You will hear back from me in 1-two weeks.

As a reminder this information will remain confidential and will be destroyed at the end of the project.

Do you have any final comments or questions?

Thank you so much.

Have a great rest of the day/evening.

Appendix N: Thematic Analysis

Response	Concepts	Categories	Category Definitions	Relevant Themes
CSR is not a firm's routine job. Therefore, supporting from internal and external stakeholders is important to the success of CSR activities.	Raising supporting	Stakeholders' support	CSR success in a firm depends on supporting from its stakeholders	Key stakeholders support
Poor communication of CSR programs to the audients can bring negative effects. For example, if community do not really understand on CSR, they may not effectively support the program goals.	Raising understanding	Extant of CSR communication	Emphasis is given to the need of communication to ensure successful CSR	CSR communication
The stable government is an important element of economic development. If the country is wealthy, then more businesses are available. In turn, more changes for CSR activities.	Stable government	National political attributes	Stable government could enhance CSR activities	National political stability
Stability political system is an essential component in socio-economic stability for any country, and in turn, more developments are available. In this sense, construction firms have changes to secure projects, thus can promote CSR activities effectively.	Stable government	National political attributes	Stable political system able to promote CSR activities	National political stability
CSR must well understand by the staffs to ensure they effectively supporting the activities.	Raising understanding	CSR training	Employees understanding on CSR is the key to success	Employees' education

Appendix N: Continued

Response	Concepts	Categories	Category Definitions	Relevant Themes
An appropriateness of organisational structure will allow organisation to respond to the CSR activities effectively. Efforts to promote CSR initiatives frequently face organisational resistance and inertia.	Organisation resistance	Appropriate structure	Structure of an organisation is an important aspect to the CSR activities	Organisational structure
Rewarding people who involve in successful CSR could create enthusiasm and credibility around CSR activities.	Rewarding staffs	Incentive	Emphasis on the need for rewarding staffs who engaged in CSR activities	Provides incentive
Low awareness of stakeholder on CSR efforts could make difficult to realize the full value of the strategic CSR as a source of competitive advantage.	Raising awareness	CSR understanding	Low awareness of CSR concept is the resistance to CSR adoption	Employees' education on CSR
The national economic growth may result in increases demand for construction projects. With projects in hand, construction firms might have ample budget for CSR activities due to it voluntary in nature.	Economic development	Economic	Economic growth is catalyst for CSR activities	National economic growth
All staffs must aware about the important of the CSR as a strategic tool for firm's competitive advantage.	Raising awareness	CSR understanding	Employees need to understand the CSR concept	Employees' education

Appendix O: Interview Transcript

Question	RA	RB	RC	RD	RE
1.1	We frequently allocate certain budget for CSR activities. But the amounts depend on how much our profit was. For example, we provide monthly allowance for internship students or giving donation to certain religious schools.	We probably are more concerned about the relationship between our business, environment, and society. For that reason, our firm willing to provide budget for CSR activities. It can be viewed from our current and previous involvement in CSR.	Well, our budgets on CSR activities depend on our profit.	It can be viewed from our current and previous involvement in CSR; indeed, we given compensate and reward to our staffs that engage with CSR activities.	We believe CSR can be used as our competitive tool especially in current business turbulence and we provide allocations for our CSR activities.
1.2	In terms of solving the need of extra budget, we will look what the problems are before we decide what actions should be taken.	We also willing to solve resources problem, we provide extra budget to ensure the CSR activities successfully.	We will look at the issues, our action depends on requirements.	We will consider, we will provide if necessary and worthy.	If worthy, we will consider but depends on course of action.
2.1	Construction business faced tough and fierceness of the competition, to remain sustain in business, we view that we must take a step ahead of our competitors. Following the current trend, we consider	We realised that today's businesses not only judge by profit and loss statements but also their contribution to society and environment, we see CSR as one of the strategies to remain sustainable in	We realised and we recognised CSR is a new competitive tool for today's businesses to remain sustainable.	Although we have yet to implement a formal CSR, we consider CSR can bring a competitive advantage to a business.	For me it would be, competitive advantage tool.

Appendix O: Continued

Question	RA	RB	RC	RD	RE
	CSR as one of business strategies. It able to help in creating benefits and value added to our firm.	business.			
2.2	As the firm's board of directors, one of my duties is making decision in every firm's strategies including CSR.	As a director, I give fully support to our CSR activities.	Our top management is solely authority in decision making of our firm operation including decision making on selecting CSR activities to be involved.	Absolutely, we will give support to CSR activities.	No doubt, we always support.
3.1	Majority of our human resources are engineers with an accumulative experience in the field for more than one hundred years. Overall managerial or internal skills are not the issue in our firm.	We have operating quite long in this business, for me, our managerial skills are acceptable for our business.	We always emphasize on internal skills to run the operation, of course, we have excellence internal skills. Perhaps, it's more than enough for our daily operation [laugh].	As a contractor, yes, we have adequate internal skills especially on technical sides.	Skills are not the issues in our firm. For example, we already practice several management systems, indeed, we practice Total Quality Management.
3.2	One of the requirements to be a professional engineering consultant is the availability of technical competence persons. Majority of our	I think we do not have enough skills on a formal CSR [laugh].	I think within our scope of works is yes but for more complex CSR activities probably no.	From my view, we can conduct any CSR activities with our existing skills.	Need to improve.

Appendix O: Continued

Question	RA	RB	RC	RD	RE
	<p>human resources are engineers with at least hold bachelor degree with an accumulative experience in the field for more than one hundred years. For that reason, we fully confident that we have enough expertise that require for conducting CSR activities especially for technical activities.</p>				
4.1	<p>has been affected by the overall world economic especially due to the crude oil crisis and also the trade war between the USA and China, so the current economic progress does not provide good environment for business.</p>	<p>I see current economic is bad for business.</p>	<p>The current economy condition is not in healthy, of course, such environment does not favour for business to growth.</p>	<p>I think it worst condition for business.</p>	<p>Economic growth is proportionate with business growth.</p>

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Appendix O: Continued

Question	RA	RB	RC	RD	RE
4.2	The current situation has totally affected our business where number and scale of construction projects in both public and private sectors dropped to record lows.	Getting worst [laugh].	Absolutely affected.	The economy scenario has affected our business . As a contractor, we rely heavily on development projects. However, the number of projects being offered has been less than before.	Directly impacted to large extent.
5.1	Not necessary at this moment.	I feel that it is not necessary. Our staffs have experienced and well-motivated as shown from our CSR activities even though such activities may consider as informal.	We don't provide any training on CSR.	We frequently provided training for our employees especially to the new methods of construction and others; in fact, we provided a talk on CSR last year.	We have scheduled training programs to our staffs especially on new practices, and CSR is part of it.
5.2	But I think important in the future when we already have a formal CSR.	Based on demand, we will consider further training on CSR especially for newly staffs, if necessary.	I think it's not necessary.	I feel for the current CSR activities are not require but if we engage with CSR activities which are more complicated, most probably we need specific training.	More education is needed.

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Appendix O: Continued

Question	RA	RB	RC	RD	RE
6.1	Mostly communication between managers and other employees in our company can be said as two-way communication.	We applied a two-way communication process and we encourage our employees to express differences of opinion.	I think our communication took place effectively. Our employees are not afraid to speak up during meetings to express their opinion.	Effective process through meetings, memos, and others.	Effective process. We established chain of commands within our firm.
6.2	Only stakeholders who involved in the CSR activity are communicated.	We used email and personal contact as a CSR communication medium to reach our different stakeholders.	I think it's reached to the audients.	Currently we focus on internal stakeholders.	Positive impact towards society needed.
7.1	We considered our stakeholders as individual or group that affect or affected our business. For examples, employees, clients, main contractors, other engineering consultants, local authorities, professional bodies, end users, and local society where the project located at.	As an engineering consultancy firm, our stakeholders include client, end users, contractors, other engineering consultancy firms, local authorities, local society, and so on.	General society.	Who's benefited and affected by our business activities.	Firstly, our own employees, then external parties who involved with our firm.

Appendix O: Continued

Question	RA	RB	RC	RD	RE
7.2	Only those who are specifically involved. For instance, local society participating in our CSR activity.	Only those who are need to involved are participated.	None at the moment.	Who's related to the activities are involved.	Our employees participate directly in CSR activities.
8.1	We considered that flexibility is a key advantage of our firm which can be found in matrix structure.	We adopt a matrix organisational structure which more flexible.	Matrix organisational structure.	Our structure able to absorb any changes.	Flexible and adopting vibrant changes effectively.
8.2	We split our employees into teams based on their function or service they work with and uses each team to complete a specific task.	We positioning our employees based on specific task such as administration, business development, design, procurement, and project management.	Through departments.	Divided by departments.	Based on qualifications and experiences of individuals.

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