CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents in-depth of literature review to illustrate the study. It is divided into eight (8) sections; (i) the definition, concept, origin and practices of PPP, (ii) an in-depth review on PPP toll expressway projects and the involvement of the decision makers in the private sector; (iii) conceptually discusses the behavioural intention of the decision makers; (iv) the independent variables of the study and exploring the conceptual, review, identify and select the critical success factors (CSFs) cluster on PPP; (v) the development of hypotheses; (vi) application of theories; and finally, (vii) a study of therotical and (viii) conceptual framework.

The study applies several theories that attempt to explain decision makers' behavioural in the relationship between behavioural intentions and other factors influencing of their involvement in PPP particularly on toll expressway projects. From the review of the underpinning theories and previous literatures on CSFs, the author established a conceptual framework for this research. Those pertinent written content including articles, journal, conference papers, textbooks, research reports, and internet documents will be in-depth explored and reviewed.

2.2 Public-Private Partnership (PPP)

This section presents in depth definition, concepts and the origin PPP, its practices worldwide and specifically its practices in Malaysia starting from its evolution.

2.2.1 Definition of PPP

The definition of PPP is applicable in many ways. Hodge and Greve (2007) refer PPP as an arrangement of cooperative institutional arrangements between public and private sectors. Some believe that PPP entails a latest method or mechanism to manage mega projects, such as highways (Savas, 2000), while others opined that PPP sets out a new paradigm for private involvement in public projects in traditional way (Linder, 1999).

Researchers and practitioners have given various definitions of PPP, with each varying slightly from one another (Abadie & Howcroft, 2004; Cuttaree & Mandri-Perrott, 2011). Basically, PPP term has been in use since 1990s; nevertheless, there is no universal agreement on one single definition and model (Bernardino et al., 2010). Hodge and Greve (2007) viewed that PPP is a cooperation between government and private entities in which they are in concert to share the risks, costs and resources to develop products and services for the general public. While Declercq (1999) defined PPP as a collaboration between public and private sector partners related to one or few specific phases of a planned project, over a definite period of time. He added the collaboration identifies the responsibilities of both partners in an agreement (contract)

encompassing compensation on damages for both partners in cases of failure to act in accordance with the agreed contractual terms.

Skietrys et al. (2008) states that PPP can become a platform for private sector's skills and management expertise being utilised while handling public mega projects. PPP provides a procurement method that focuses on the effective delivery of "value for money" (VfM) on public infrastructure projects by implementing competitive tendering elements as well as flexible negotiations and risk allocation between parties (Akintoye et.al., 2003).

The PPP procurement process is a viable and effective way of providing much needed public infrastructure or services at a lower cost. Notwithstanding the differences in interpretations, all definitions of PPP have certain commonalities, including:

(i) the public-private partnership is always a collaboration between two or more entities (one of it, is a public entity);

(ii) each party is a principal;

(iii) the engagement is long-term, stable and mutually complementary benefits;

(iv) the entities contribute material and/or non-material resources to the partnership, and

(v) there is sharing of risks and responsibilities among all entities in the partnership (Akintoye et.al., 2003).

Cumming (2007) connotes that the model of PPP allows government to focus on other important sectors of the economy to boost infrastructural growth and development as the PPP model basically allows both parties (public and private) to collaborate, contribute and complement each other's skills, with differing involvement and responsibilities, to deliver a project with increased efficiency in delivering public goods and services.

Khanoom (2010) stated that PPP has been defined by different scholars in various ways. As there are multiple definitions of PPP found in literature, Hodge and Greve (2007) opined that there is a requirement to review on the different meanings and definitions of PPP and assess accordingly whether the concept is still relevant for study. Teisman and Klijin (2002) stated that PPP is used in different contexts and there is an ongoing debate on how to define PPP from various perspectives.

PPP is seen as a mechanism of governance and management (Hodge and Greve; 2007), a financial arrangement method (Campbell, 2001), a procurement management tool (Patil; 2016), a development process and procedure (Paoletto; 2000) as well as a language game (Stern and Harding 2012). Looking at these various definitions in all its manifestations, most literatures are in the same opinion that PPP is a form of procurement with the following characteristics (Allan, 1999; Grout, 1997; Valila, 2005). These are:

(i) the involvement of the private sector in providing public infrastructure or services for the general public interest;

(ii) the long-term nature of collaboration/cooperation;

(iii) the allocation of risks between public and private partners;

(iv) the use of private funds (at least in part), and in some situations, the use of project finance mechanisms; and.

(v) packages which may consists of different project phases such as designing, construction, operational and maintenance.

Although the following definition slightly varies from the literature, PPP in Malaysia is known as a smart partnership instrument between public and private entities with the aim to develop or deliver public infrastructure or services within the agreed period (UKAS, 2017). Farquharson et al (2011) claimed that PPP term can be used to describe a wide variety of arrangements involving public and private sectors in working together. Thus, PPP can also be classified as partnership arrangement between the government party and private entity for delivering public assets or services, with substantial risk taken by the private entity within stipulated period.

Most scholars agreed that the definition of PPP addresses in many way according to the needs of the practitioners (Farquharson et al 2011; Yescombe, 2007). Through the review of literatures there is no legal meaning attached to the term PPP. Thus, in Table 2.1, the definition of PPP are compiled according to institutional bodies which can conclude that it has four key elements:

(i) Collaboration and arrangement between government and private sector entity at specified period of time;

(ii) It is a government's procurement instrument;

(iii) There is transfer and allocation of risks to the private sectors; and

(iv) The construction, financing and operation of public infrastructure is carried out by the private sector.

Table 2.1: Summary Institutional Definition of PPP

Institutional and Year	Definition	Reconciled of Definition
Asian Development Bank (2005)	A range of possible relationships among public and private entities in the context of infrastructure and other services.	PPP is an instrument of government's procurement which aim to have a smart partnership arrangement between public and private sector at agreed period of time to develop product or services by allocation of risks, cost and resources in order to achieve effective allocation of risks and realisation value for money (VfM).
Economic Research Institute for ASEAN and East Asia (2014)	PPP is a government's specialised procurement method for delivery of public goods and infrastructure services	
European Commission (2006)	A form of cooperation between public authorities and economic operators with the aims to fund, construct, renovate or operate an infrastructure or the provision of a service.	
International Monetary Fund (IMF), 2004	An arrangement that require private sector providing infrastructure assets and services that traditionally provided by the government	
UKAS (2009)	An instrument of smart partnership for both entities, public and private with the aim to develop or deliver public infrastructure or services within the agreed of time.	
World Bank (2016)	Medium to long term arrangement between both parties of public and private whereby the responsibilities of providing some services taken over provided by the private sector.	

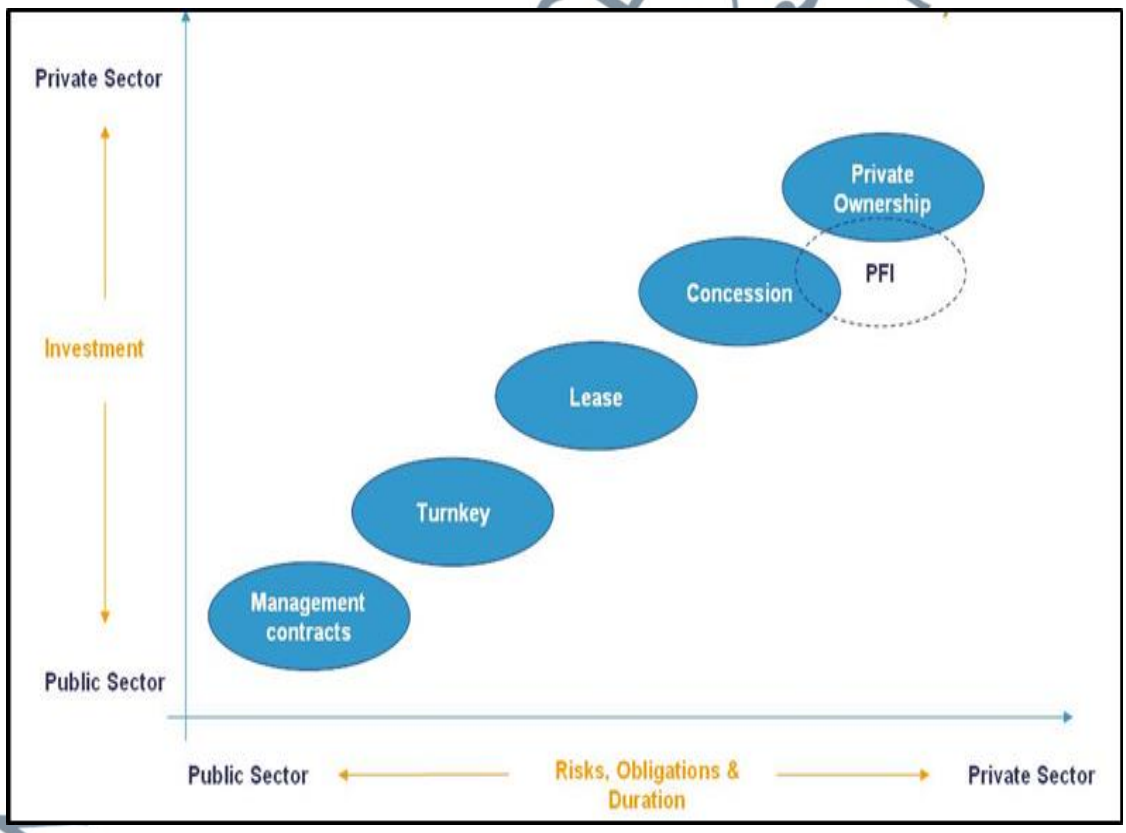
2.2.2 The Concept of PPP

The concept of PPP is nothing new. It has been used widely by countries to fund their developmental projects. PPP is analogous to many other principles of public policy that are vague or ambiguous and open to interpretation (Weaver and Manning, 1991). A multi-disciplinary definition that covers the scope of the of the partnership spectrum is that PPP are collaborative ventures with involvement of public and private institution, jointly developing products and services, sharing risks, costs and resources (Carroll and Steane, 2000; Linder, 1999).

Precisely, partnership is a collaboration involve promises of a possible compromise in terms of "constructive collaboration" (Rosenau, 1999). The collaboration concept has been emphasised and can be seen in various studies (Pessoa, 2008; Weaver & Manning, 1991), and also it is a key delineating attribute between PPP privatisation and a contract. In simple terms, many asserts that PPP is an exceptional collaboration between private companies and the public sector – offering unique opportunities for the two parties to work together on government-initiated projects.

Declercq (1999) stated that the main key in a PPP is that the sharing of risks towards the projects between both parties (public and private) respectively. The parties involved must have capability in managing such risks and uncertainties without disrupting the flow of the project. However, some argued that this definition is restrictive, while others take a more pragmatic view in explaining the concept of collaboration between both institutionals as partnerships.

The five elements of PPP model are depicted in Figure 2.1. Each element has its advantages and disadvantages to achieve one or more objectives for participation, especially those of the private sector. The special characteristics governing the partnership and the parties, including development of technology, legal and regulatory framework, and public and political stance, may also become determinants in ascertaining the model and mechanism suitable for private sector participation. For example, management contracts are commonly used in projects with existing assets (such as in public utilities sectors), leasing and concessions are used in the transportation sectors while turnkey and private ownership of assets are preferred in the telecommunication and power sector.



Source: ESCAP (2008)

Figure 2.1: Basic Features of PPP Model

A clasification of PPP models can be seen in Table 2.2 below showing the possible individual and combination options. For example, a lease or (partial) privatisation contract for existing facilities could incorporate provisions for expansion through Build-Operate-Transfer (BOT) and in fact, many recent contracts are of combination type.

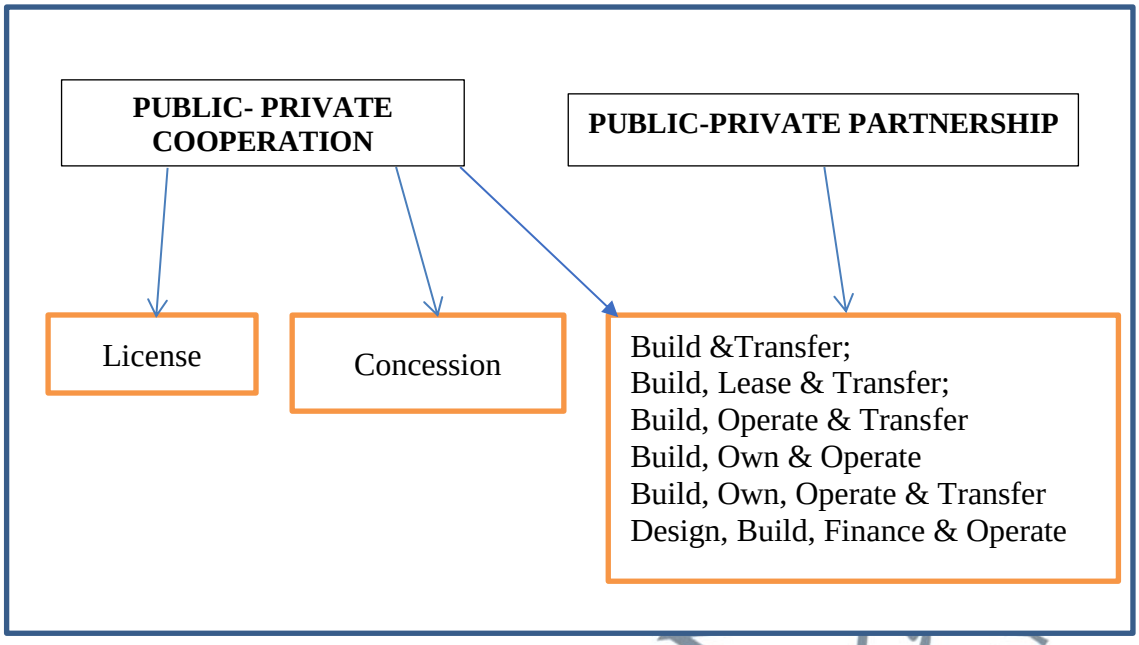
Table 2.2: Classification of PPP Models and Typical Characteristics

Broad category	Main variants	Ownership of capital assets	Responsibility of investment	Assumption of risk	Duration of contract (years)
Supply and management contract	Outsourcing	Public	Public	Public	1-3
	Maintenance management	Public	Public/Private	Private/Public	3-5
	Operational management	Public	Public	Public	3-5
Turnkey		Public	Public	Private/Public	1-3
Affermage/Lease	Affermage	Public	Public	Private/Public	3-20
	Lease*	Public	Public	Private/Public	3-20
Concessions	Franchise	Public/Private	Private/Public	Private/Public	3-7
	BOT**	Public/Public	Private/Public	Private/Public	15-30
Private ownership of assets (PFI type)	BOO/DBFO	Private	Private	Private	Indefinite
	PFI***	Private/Public	Private	Private/Public	10-30
	Divestiture	Private	Private	Private	Indefinite

* Build-Lease-Transfer (BLT) is a variant.
** Build-Operate-Transfer (BOT) has many other variants such as Build-Transfer-Operate (BTO), Build-Own-Operate-Transfer (BOOT) and Build-Rehabilitate-Operate-Transfer (BROT).
*** The Private Finance Initiative (PFI) model has many other names. In some cases asset ownership may be transferred to, or retained by the public sector.

Source: Quium (2011)

From earlier definitions, PPP can be summarised as means of collaboration and cooperation between public and private entities, which clearly defines the allocation of project risks and responsibilities between partners according to the collaboration model. Thus, based on the identified elements, two main types of public-private collaboration can be identified – namely public-private cooperation and public-private partnership (see Figure 2.2).



Source: Declercq (1999)

Figure 2.2: Structures of Public-Private Collaboration

Each of these models builds on the concept that the public sector transfers to the private sector a number of risks and responsibilities related to the project. Both the copperative and partnership models include a formal contract between the partners to signify their commitment to venture. The difference lies in the content and structure of the agreement.

Declercq (1999) categorised PPP in three types that can be specified by the level of participation of the stakeholders. A "basic PPP" is the first type which both parties collaborating to handle a particular project and outsource other non-core activities. The second type is a "controlled PPP" where financing partner/s are formally on board as part of the project team and are participated in the decision-making process, giving them a measure of control in project risk management. The third type of PPP is known as an 'integrated PPP' that involves all the stakeholders during the project's life cycle.

2.2.3 The Origin of PPP

Bezançon (2004) stated that the history of public-private partnerships can be traced back two thousand years ago to the Roman Empire. The first partnership was a postal-station network developed to support the massive expansion of the highway system in territories under Roman rule. Kumaraswamy and Morris (2002) connoted that, 582 years ago in 1438, a Frenchman named Luis de Bernam was granted by the French government a river concession to impose fees for goods transported on the Rhine. Grimsey and Lewis, (2007) claimed that the second PPP concession happened around 1664, for a jointly constructed turnpike (an avenue to toll road) between the British government and the private sector. In 1792, a third PPP involved a water distribution project with participation of the Perrier brothers in Paris, France. (Kumaraswamy and Morris, 2002). This was followed by the Lancaster Turnpike, a pioneering long-distance stone and gravel road, which was constructed by the Philadelphia and Lancaster Turnpike Company from 1792-1795; the Erie Canal, which was completed in 1823; and the Transcontinental Railroad which was completed in 1869 (Smith, 2009).

On the contrary, Akintoye et al., (2015); Chan et al., (2011); Alitheia (2010); Li et al., (2005) and Tieman (2003) asserted that PPP was originated in the United Kingdom (UK). They were in the position that PPP in the UK began in 1992, when the British government and a merchant bank collaborated to form a partnership called, Public Finance Initiative (PFI) to develop a mining project.

Zheng et al., (2008) stated that PPP term was employed since the second half of the 20th century. However, PPP started being implemented and rigorously researched

only in the mid-1980s (Bernardino et al., 2010). In its introductory phase, PPP policies were mainly employed in the UK and the USA, by the Thatcher and Reagan adminstrations who positioned PPP as the key strategy for economic development and urbanisation (Weaver & Manning, 1991).

Squires (1991) stated that PPP is an alignment with neo-liberalistic ideology of the supremacy of the private sector and market forces in fostering development which the movement towards liberalisation and privatisation can be seen from 1980s and 1990s in both developed and developing countries. PPP underwent consolidation in the first decade of the 21st century, with both showing stagnation and expansion in new markets, especially in Asia. The World Bank (2012) reported many developing countries have embarked on privatisation programmes and initiating the new improvised version of PPP. Emerging economies have empowered the private sector in the development of infrastructure and maintenance, which some more successful than many industrialised economies. While the countries across Asia, Latin America and Africa are being promoted the initiatives such as maintenance activities to private companies and firms.

Grimsey and Lewis (2002) connotes that most of the countries have recognised that significant economic development must be accompanied by financial support from the government. This involves higher expenditure and increased debts, forcing states to look for a better solution to achieve their development agendas. Thus, many governments are now exploring methods to minimise their fiscal burdens while still incentivising private intitutionals to engage in PPP. In light of this, researchers

worldwide have tried to study the implementation and operations of this highly-contentious policy (Chan et al., 2010; Cheung et al., 2012).

2.2.4 Practices of PPP Worldwide

Global challenges and rapid economic progress have increased demand for various types of developments. These developmental needs could potentially create uneasiness in countries where investments needed to meet the demands cannot be independently funded by the government (Adetola et al., 2011). Here, PPP can be a favourable option to facilitate governments to meet demands for enhanced public facilities and services. Governments can adopt PPP models and policies to bridge their huge infrastructure gaps (Kumaraswamy and Zhang, 2001). A well-thought out PPP can maximise efficiency and innovation of private enterprises, provide required capital to finance government programmes and projects, allowing governments to allocate public funds for other core economic and social programmes (Adetola et al., 2011).

Startin et al., (2009) stated that UK's PPP programme, through its Private Finance Initiative's (PFI) initiative, which started in 1992, is currently contribute for roughly 14% of the country's public investments, most of which are infrastructure projects. Australia and Ireland also having quite substantial PPP programmes that generate a significant value for the countries' public investments. World Bank's report 2010 indicates that the Western European countries have also come on board, although their share of PPP projects in total public investment is quite small. These include countries with long history of concessions for expressway developments such as France, Italy and Spain, and others such as Finland, Germany, Greece, the Netherlands and Portugal. A number of Central and Eastern European countries including the Czech

Republic, Hungary, and Poland have also embarked on PPP, reflecting the conundrum between the need for infrastructure investment against weak fiscal positions. PPP programmes, predominantly for road projects, are also seen in Canada and Japan (World Bank, 2010).

Meanwhile, in South America, PPP has been employed to encourage private sector participation in public investment programmes in Chile, Colombia and Mexico (OECD, 2012). Chile's well-established PPP programme involves the development of roads, airports, prisons, and irrigation. Colombia, which has unsuccessfully explored use of PPP since the early 1990s recently launched new PPP programmes to develop roads. In Mexico, PPP was also used, with little success, to finance roads in the 1980s. It looked again into PPP the mid-1990s, and has been successful with several projects in the energy sector, with plans to emulate the model to the provision of other services. Other countries like Brazil, are making significant plans to introduce PPP programmes (World Bank, 2012).

In Asia, there is strong momentum to use PPP. There are well-established programmes in South Korea, an extensive investment programme in China, a rapidly expanding programme in India and other programmes in varying degrees of implementation and success throughout Asia countries (Tang et al, 2010). In Africa, South Africa has embarked on and is currently developing PPP programmes in various sectors. Cote d'Ivoire and Senegal, have also seen success in PPP programmes particularly in the utilities sector such as energy and water (Akintoye and Beck, 2009). Kahyaoğullari (2013) observed differences in PPP policies in developing and developed countries, specifying in five (5) key factors: (i) how the policy interfaces with the

country's political agenda, (ii) the main purpose of the government to implement PPP policy, (iii) the distribution of sectoral development; (iv.) the PPP model employed; and (v) the regulatory framework.

2.2.5 Practices of PPP in Malaysia

The evolution of PPP kicked off in Malaysia when the privatisation and Malaysia Incorporated policies were introduced in 1983. The introduction of these two (2) policies was an effort by the then government to reduce both its administrative and financial burdens, as well as encourage private sector involvement in the country's development (Navaratnam, 2003).

Nambiar (2011) stated that the privatisation and Malaysia Incorporated programmes were formulated based on three main criteria; no/minimal impact on government funds, risks to be borne entirely by the private sector, and the government as a regulator. Abdullah et al (2016) added the privatisation programme launched in 1983 to 2005 saw extensive programmes initiated in sectors such as healthcare (hospital), utilities (electricity, gas and water), telecommunications, and infrastructure (expressways, postal, airlines and airports). These programmes adopted various models and forms of collaboration.

In Malaysia's privatisation programme, apart from the sale of government assets other forms such as leasing, management buyout, build-operate-transfer (BOT) and build-operate (BO) were also being implemented (Malaysia, 1991). Arising from the success of the privatisation policies, in March 2006, the Malaysian government announced the implementation of projects under a new programme called PFI under the

Ninth Malaysia Plan. PFI was aimed to promote greater involvement of the private sector to provide public goods and services, and set out a few key principles with regards to the procedures of procuring and implementing public sector infrastructure projects (Hamsa, 2014). The three main features of PFI are; there will be impact on government budget, risks are relocated and shared by all parties, and involvement of the public sector is through the enforcement of pre-agreed service Key Performance Indicators (Nambiar;2011).

According to Ghazali et al (2017), the terms PFI and PPP are used inter-changeably around the world, although there are variations between them. In Malaysia, the PFI and privatisation policies are a sub-set under the umbrella of PPP. Thus, since its introduction in 2006, PFI has been part and parcel of the new procurement procedures, as a mechanism of PPP. PFI promotes the common build-operate-transfer (BOT) and build-operate (BO) models, and has introduced new partnership models such as the build-lease-manage-transfer (BLMT), build-lease-transfer (BLT) and design-build-finance-operate (DBFO) models (UKAS, 2009).

In respond to the increasing need and to strengthen PPP programmes to support economic development, a PPP unit (3PU) or also known as Unit Kerjasama Awam Swasta (UKAS) was established on 22 April 2009. Initially, UKAS reported direct to the Prime Minister's Department and acts as a central agency in planning, coordinating and facilitating PPP programmes in Malaysia. However, after the Malaysian 14th General Election (GE14) in May 2018, under the new Pakatan Harapan's (PH) government, UKAS reallocated as a department in the Ministry of Finance (MoF).

The implementation of PPP commonly denotes the private sector taking the responsibility to finance and manage a public sector project. This include the whole package, starting from capital investment to the whole range of project management activities and services including the construction, management, maintenance, refurbishment and replacement of public sector assets. These can include buildings, infrastructure, equipment, facilities and services. In these projects, the private party is contractually obligated to deliver public infrastructure-based services over a long period (UKAS, 2017).

The private sector will take the responsibility of raise own funds to fully or partially finance the project and to deliver the services based on agreed deliverables (Suhaiza, 2015). In return, it receives compensation from the public sector, which may include, in some projects, payments for the facility or services directly from the public users (Hamsa, 2014). Ownership of the assets is less of a concern in Malaysian PPP arrangements – many models see the assets being transferred back to the public sector after a certain period of time. Nevertheless, some assets are not transferred to the public sector at the end of the concession period. These are usually facilities or projects that have little value at the end of the period due to their technological obsolescence.

PPP is increasingly gaining prominence among policy makers as a sustainable model for infrastructure development in Malaysia (Zakaria and Suffian, 2009). PPP is seen as an efficient mechanism to expand the potential of public infrastructure provisions as well as achieve cost-effectiveness (Nambiar, 2011).

The Malaysian parliamentary budget session for 2015 saw a total of RM50.5 billion allocated for Development Expenditure (DE), of which, the highest share

RM29.3 billion was for the economic sector. From this economic sector allocation, 54.9% was allocated to the implementation of seven infrastructure projects, and a further four projects for the construction of expressways totalling RM16.1 billion. As of end 2018, the MoF reported that the total financial commitment on PPP considered as part of the government's liabilities came to approximately RM135.1 billion or 9.3% of Gross Domestic Products (GDP).

UKAS (2017) claimed that since PPP began in 1983 until June 2016, 824 projects have successfully been implemented. All these projects saw the government saving RM207.15billion in total capital expenditure and RM9.25billion in total operating expenditure. The total proceeds from the sales of government equities and assets also stood at RM6.48billion. These number show that the significant influence and role of PPP in the national budget, and its substantial impact towards Malaysia's economic growth and development.

2.3 Involvement Behaviour of Decision-Maker on PPP Toll Expressways

This section is broken down to three (3) topics and the discussion focused on toll expressway, PPP on toll expressway in Malaysia, and the decision makers in the private sector involvement in PPP.

2.3.1 Toll Expressway

Throughout the world, both developed and developing countries have accumulated a wealth of institutional, regulatory, and financial capabilities in the construction and operations of toll road systems (OECD, 2012). A similar trend is

observed among many developing Asian countries where Government has introduced toll road systems to cater the increase of traffic volume and vehicle ownership. It is also a means to expand the coverage of road networks in their countries and it was reported that, toll road system is regarded as the most cost and time efficient manner to achieve the objectives to cater to growing traffic demand as a result of positive economic growth (World Bank, 2018).

Research discovered that the PPP on toll expressway has increased significantly within the last two decades in five countries which are China, Indonesia, Malaysia, Philippines and Thailand (OECD, 2012). This trend commensurate with the rapid economic growth in these countries. These countries have used toll roads as the preferred method to finance their road networks expansion (Akintoye and Beck, 2009). They have initiated private concessions as their preferred model to finance the design, building and operations of toll roads (World Bank, 2018).

This emerging trend is very different from early day's approach where toll road developments were mostly dominated by the national public sector highway authorities (Abdullah et al., 2016). However, the last decade has seen the increased of private sector players involvement, and currently, majority of ongoing and planned toll roads in all of these countries involves private sector participation (Osei-Kyan and Chan 2015). As each of these countries have their own unique institutional and regulatory frameworks to cater to their prevailing social, economic, and political environment, their private sector and public sector partnership models and format differ accordingly (Aerts et al. 2016). Hence, a deeper analysis on their success and challenges will produce valuable lessons and takeaways for policy-makers in other countries who wishes to embark on a

similar expansion plan for their road networks (Suhaiza, 2013). The data and inputs collected can be used to formulate apropriate institutional and regulatory frameworks which can benefit respective country's needs and considerations

Lockwood et al. (2005) provided an overview of PPP in toll road expressway development and summarised the PPP two broad categories. First is the DBFO model, which was adopted by the UK highway agency under the PFI mechanism to award concessions for PPP road projects. Klijn and Teisman, (2005) provided an overview of the DBFO approach while Eaton and Akbiyikli, (2005) provided detailed analysis of selected DBFO road projects constructed as a part of the PFI. Grimsey and Lewis, (2004) asserted that a major innovation introduced by the model is that it is seen as a service procurement policy, and not conventional capital asset procurement. Fahim et al (2018) added that the significant impact of the different approach is where the service outcomes and performance standards are clearly specified. In addition, user charges are not collected by the concessionaires, and payment is via a mix of shadow tolls, availability, and performance indicators.

The second category is the build-own-operate (BOO) / build-operate-transfer (BOT) / build-transfer-operate (BTO) models adopted in the USA (Lockwood et al 2005). Under these schemes, the private party undertakes to finance, build, own, and operate the facility, as well as collect toll revenues during the concession period (Antillon et al. 2017). The private sector is responsible to raise the financing for the project while ownership remains with the government throughout the concession period (Alfan and Zakaria, 2012). This model gives the concessionaire the right to collect tolls from road users to service their debt incurred by the project as well as to earn a return

on equity (Nambiar, 2011). While these three models are similar in their approach, the major difference among them (BOO/BOT/BTO) – are mainly in terms of the timing of the government's financial responsibility (Grimsey and Lewis; 2004)

PPP projects are viewed as attractive and viable policy options for funding infrastructure development in developing countries (United Nations, 2002; Irwin et al., 1997). However, there are several challenges which have been identified during its implementation among developing countries compared to developed countries – challenges which mainly stem from the unique environmental differences for infrastructure investment between the economies (Miller and Lessard, 2001; Pessoa, 2006).

Grimsey and Lewis (2004) indicate that among others, the main obstacles to implement PPP in a developing country are the absence of proper legislations, managing higher risks for project financing, proper accounting for the assets created, soliciting public acceptance of PPP projects, as well as limited competency of public administration in terms of skills and capacity to successfully negotiate and manage the projects.

2.3.2 PPP on Toll Expressway in Malaysia

In 1966, Malaysia became the first country in the region to implement toll roads. The country defined a highway (or expressway) as "a high-speed route with a minimum of four lanes, made up of two lanes in each direction, with either limited or partial accessibility" (Navaratnam, 2003). Expressway construction is a part of the most

conservative segment in the Malaysian construction industry that conforming to the standard (Zakaria and Suffian, 2009).

The Malaysian Public Works Department Guide on Geometric Design of Roads 8/86 Order, in 1985, defined expressways as "high-speed highways built under the JKR R6 rural highway standard, as dual-carriageways of at least four lanes (two lanes per carriageway) with full access control, grade-separated interchanges and high-design speed limit of 120 km/h, and allowing the maximum speed limit of 110 km/h (Malaysian Highway Authority, 2009).

In 2016, Malaysia currently has over 18,904 kilometres (km) of Federal Road network – managed or maintained by the Ministry of Works through privatisation. Here, the government appoints concession companies to be responsible for the maintenance of Federal Roads according to designated zones. It is widely recognised that connectivity through a good road infrastructure network is a prerequisite to a nation's development (Malaysian Highway Authority, 2017). In this regard, other than the construction of new roads, the Malaysian road authorities have become more aware of the need to maintain and upkeep existing roads. With the large road network at about 18,904km (federal roads) and about 61,420km (state roads), Malaysia currently spends about RM580 million annually for road maintenance (UKAS, 2017). This amount would be higher if road user costs and vehicle operating costs are factored in. Since 2001, the maintenance of federal roads has been privatised and they are divided into three (3) zones – namely the northern, southern and central/eastern zones (Ghazali et al, 2017).

The Malaysian expressway network has significantly developed from upgraded "bullock-cart tracks" of the 1960s. The privatisation initiative in the 1980s had increased the construction of toll expressways (Navaratnam, 2003). The government had shifted its policies related to ownership of infrastructure and industries from the state to private companies in 1983. Since then, there has been greater government reliance on PPP toll road projects to achieve the governments' expressway expansion goals (Nambiar, 2011).

Malaysia's reliance on PPP toll road projects for expressway infrastructure over the last thirty years received a boost in the decade, largely due to the government's privatisation policy (Jomo, 2004). As demand for better and faster travel on roads increased, the private sector responded by increasing investments in toll expressway projects. After the introduction of the privatisation policy, the Federal Roads (Private Management) Act of 1984 was enacted by the Parliament (Abdullah et al. 2016). This Act gave the Government permission to grant private companies the right to a) collect tolls on federal roads, and b) to give the responsibility of upgrading and maintenance of sections of completed roads to private companies over a concession period (Zakaria and Sufian, 2009).

The common arrangements for PPP toll expressway projects in Malaysia are the BOT or DBFO models where the private sector finances the construction, operation, and maintenance of a road and uses the toll revenues to recoup costs over a concession period (UKAS, 2017). Here, the private sector holds project's responsibilities – designing, constructing, financing, operating, and maintaining the road – compared to more traditional arrangements. From these policies, millions of Malaysian road users

benefit from the 30 expressways with a total length of 1,821 km. These expressways can be categorised as world-class expressways, and are among the best road network in Asia after China, Japan and South Korea (Malaysian Highway Authority, 2017).

i. The majority of Malaysia's expressways are toll roads, which are well-maintained and have made travelling around the country easier. There are two main types of toll systems – closed and open – where users pay either using cash or electronic tolling systems such as Touch n Go card, Smart Tag and RFID tags. Malaysian Highway Authority (MHA) categorised toll expressway in Malaysia into three types, namely:

ii. Inter-Urban Expressway, namely roads that go through various states, link major cities and urban to rural areas, and thus forms the national Expressway network. The access to inter-urban expressways are fully-controlled, where entrance and exits can only be through interchanges at strategic locations. Examples of inter-urban expressways are the North-South Expressway and the East Coast Expressway.

iii. Intra-Urban Expressway refers to roads that run within the city limits. The first intra-urban expressway in Malaysia is the Ampang-Kuala Lumpur Elevated Highway (AKLEH).

iv. Urban Expressway is roads that provide connectivity and contributes to the growth of vibrant townships. Examples include the Damansara-Puchong Expressway (LDP), Shah Alam Expressway, and the Kerinchi-Damansara-Penchala Link (SPRINT).

There are 30 toll expressways currently operating in Malaysia, with 22 of them being intra-urban highways. The Malaysian Highway Authority (MHA) reported that as of 2019, 30 toll expressways are in operation, and another six are under construction as shown in Table 2.3.

Table 2.3: List of Toll Expressway/Highway in Malaysia

Operational Expressway				
No.	**Name of Expressway**	**Date Operation**	**Length (km)**	**Concessionaire**
1.	North-South Expressway (NSE) E1/E2	9 Aug 1994	823km	PLUS
2.	Second Link Expressway (MSSC) E3	2 Feb 1998	47km	PLUS
3.	North-South Expressway Central Link (NSECL/Elite) E6	16 Oct 1997	63km	PLUS
4.	Butterworth-Kulim Expressway (BKE) E15	15 Nov 1996	17.8km	PLUS
5.	Seremban-Port Dickson Highway E29	1 Jan 1970	22.8kn	PLUS
6.	Penang Bridge E36	14 Sep 1985	17.5km	PLUS
7.	Sultan Abdul Halim Muadzam Shah Bridge (Penang Second Bridge) E28	3 Jan 2004	24km	PLUS
8.	East Coast Expressway Phase 2 E8	22 Nov 2011	184km	PLUS
9.	Shah Alam Expressway (KESAS) E5	12 Jan 1998	34.5km	KESAS Sdn Bhd
10.	Stormwater Management and Road Tunnel (SMART) E38	14 May 2007	5km	Syarikat Mengurus Air Banjir & Terowong Sdn Bhd
11.	SPRINT Expressway (Kerinchi Link, Damansara Link and Penchala Link) E23	28 Aug 2001	26km	Sistem Penyuraian Trafik KL-Barat Sdn Bhd
12.	Damansara-Puchong Expressway (LDP) E11	25 Jan 1999	40km	Lingkaran Trans Kota Sdn Bhd

Operational Expressway				
No.	**Name of Expressway**	**Date Operation**	**Length (km)**	**Concessionaire**
13.	Kuala Lumpur-Karak Highway E8	30 Sep 1999	60km	Anih Berhad
14.	East Coast Expressway Phase 1 E8	1 Aug 2004	174km	Anih Berhad
15.	KL-Seremban Highway E37	1 Aug 1995	10.5km	Anih Berhad
16.	Duta-Ulu Kelang Expressway (DUKE) Phase 2 E33	30 Apr 2009	18km	Konsortium Lebuhraya Utara-Timur (KL) Sdn Bhd
17.	Kajang-Seremban Highway (LEKAS) E21	31 Dec 2008	44.3km	Lebuhraya Kajang Seremban Sdn Bhd
18.	Sungai Besi Expressway (BESRAYA) E9	14 Jan 1999	28.9km	Besraya Sdn Bhd
19.	New Pantai Expressway (NPE) E10	2 Apr 2004	19.6km	New Pantai Expressway Sdn Bhd
20.	Ampang-Kuala Lumpur Elevated Highway (AKLEH) E12	17 May 2001	7.9km	Projek Lintasan Kota Sdn Bhd
21.	Kemuning-Shah Alam Highway (LKSA) E13	18 May 2010	14.7km	Projek Lintasan Shah Alam Sdn Bhd
22.	Guthrie Corridor Expressway E3	15 Aug 2009	25km	Prolintas Expressway Sdn Bhd
23.	Kajang Dispersal Link Expressway (SILK) E18	16 Feb 2004	37km	Sistem Lingkaran-Lebuhraya Kajang
24.	South Klang Valley Expressway (SKVE) E26	29 Jun 2010	51.7km	SKVE Holdings Sdn Bhd
25.	Cheras-Kajang Expressway (CKE/Grand Saga) E7	15 Jan 1999	11.5km	Grand Saga Sdn Bhd
26.	New North Klang Straits Bypass (NNKSB) E30	8 Jan 2005	17.5km	Grand Sepadu Sdn Bhd
27.	Senai-Desaru Expressway (SDE) E22	17 Sep 2009	77km	Senai Desaru Expressway Berhad

Operational Expressway				
No.	**Name of Expressway**	**Date Operation**	**Length (km)**	**Concessionaire**
28.	Kuala Lumpur-Putrajaya Expressway (MEX) E20	15 Jan 2008	26km	Maju Express Sdn Bhd
29.	Butterworth Outer Ring Road (BORR) E17	7 Dec 2005	18.9km	Lingkaran Luar Butterworth Sdn Bhd
30.	Kuala Lumpur-Kuala Selangor Expressway (KLS/LATAR) E25	23 Jun 2011	33km	KL-Kuala Selangor Expressway Bhd

Under Construction				
No.	**Name of Expressway**	**Expected Completion**	**Length (km)**	**Concessionaires**
1.	Setiawangsa-Pantai Expressway (SPE)	17 Nov 2020	32km	Lebuhraya Duke Fasa 3 Sdn. Bhd
2.	Sungai Besi-Ulu Klang Expressway (SUKE)	28 Aug 2020	31.8km	Projek Lintasan Sungai Besi-Ulu Klang Sdn. Bhd.
3.	Damansara-Shah Alam Elevated Expressway (DASH)	3 Aug 2020	20.1km	Projek Lintasan Damansara-Shah Alam Sdn Bhd
4.	Putrajaya-KLIA Expressway (MEX II)	4 Oct 2019	19km	MEX II Sdn Bhd
5.	East Klang Valley Expressway	9 Sep 2019	36.16km	EKVE Sdn Bhd
6.	West Coast Expressway (WCE)	24 Aug 2019	233km	WCE Holdings Bhd

Source: Malaysian Highway Authority (2019)

The toll payment on expressways takes two (2) forms. First is where construction of new road is financed by charging the road users a certain rate based on the distance of travel (UKAS, 2017). In this case, the upfront cost of construction is jointly financed through a loan from a financial institution and the Government for advance payment for land acquisition. As part of the loan repayment strategy, road users

are charged for use of the road. This approach is seen effective in accelerating road construction and facilitates adding on the existing road network (UKAS, 2009). However, this has proven attractive and viable only for selected routes. As in any proposed investment, the economic viability of the project should be carefully assessed in terms of user distribution, traffic growth, and its impact on the neighbouring network. Incorrect or inaccurate forecasts of economic returns may jeopardise both the investment and construction of the expressway (Aerts et al. 2014).

2.3.3 Decision- Makers in the Private Sectors towards PPP

The World Bank's 2030 Agenda for Sustainable Development reinforces the role of PPP and the necessity for having in place appropriate, effective and suitable infrastructure to support the achievement of the identified Sustainable Development Goals (SDGs). It was suggested in the World Bank, (2018)'s report that modernisation with smart infrastructure without neglecting energy-efficiency and environmentally-friendly are the main criteria to achieve SDGs, especially in the developing economies.

The decision makers in the private sector through investment decision portfolio has a fundamental role to play in supporting this global agenda – their involvement can bring about access on the expertise, more funds and the efficiency of the project development especially in the main sectors including telecommunication, transportation, energy and water. It has been claimed that PPP is a proven method of encouraging more decision makers and stakeholders from the private sector to actively involved in infrastructure projects (Pessoa; 2006). The involvement can take many organisational forms and arrangements. The World Bank (2012) classifications stated that there are in general six typical forms of the involvement:

i. Short-term service contract: Contracts on a short-term basis usually apply in cases where the public sector intends to engage private entities to undertake particular tasks – such as maintenance services.

ii. Management contract: Contracts in which the private sector is engaged to manage a facility, including its day-to-day routine maintenance and receives payment from the government. This type of contract can improve managerial efficiency.

iii. Lease contract: Contracts in which the government leases assets to private company, who takes the operational responsibility of maintaining and operating the assets.

iv. Greenfield project: New projects in which the private sector takes on the commercial risk of a project, which can involve building, development and management of the project. Even it can take many forms but the most common of the Greenfield projects is the Build-Operate-Transfer (BOT) model.

v. Concessions: An arrangement where the government grants a private entity the exclusive rights to an asset of over a contract period – including to build, operate, manage and undertake investment. In certain cases, a fee is imposed on the private company to obtain this right. However, the government still retains the ownership of the asset, which at the end of the contract, the asset will revert free of charge. This type of arrangement results in better investment returns, and higher

operational efficiency, while at the same time requires high commitment and regulatory capacity from the respective government agency.

vi. Divestiture: An arrangement where the equity stake of a public assets bought by private entity by mode of sale of asset, public offering mass privatisation programme. The divestitures can be full or partial – where the government transfers full or part of equities from a state-owned company to the private sector parties. This option may or may not include the private sector managing and maintaining the facility.

Most empirical literature on PPP looks at the determinants of investment levels and number of projects. Typically, the literature looks at the macroeconomic conditions and legal and institutional environment elements in the host country as potential determinants (Banerjee et al., 2006; Basílio, 2011; Hammami et al., 2006; Kirkpatrick et al.,2006; Moszoro et al., 2014; Mota and Moreira, 2015; Tewodaj, 2013).

On the contrary, there is limited literature available on the factors influencing the decision makers in the private sectors of the involvement in PPP. Albalate, Bel and Geddes (2015) pointed out that this topic has not been systematically explored in the literature.

Due to ample opportunities and needs for more private sector involvement in infrastructure projects, hence, it is vital to examine and identify the factors that influence, motivate, and drive the decision makers in the private sectors to participate in PPP, particularly in toll expressway.

2.4 Behavioural Intention

This section presents the definition and concepts of behavioural intention and discusses on the behavioural intention of the decision-maker in the private sector

2.4.1 Definition and Concept of Behavioural Intention

Ajzen (2012) defined intention as an individual's subjective probability of performing a certain behaviour. It reflects the willingness of particular person to engage towards particular action that reflects as actual behaviour. Hsing (2002), defined behavior as the performance of an action at a certain time in a certain context and with a certain purpose.

The behavioural intention can capture the motivational factors that influence an individual or organisation in performing an actual behaviour. This entails effort, willingness and planning towards performing the particular behaviour (Ajzen; 1991). Armitage and Conner (2001) stated that the best predictor of behaviour is intention and behavioural intention refers as the cognitive indication of the readiness of an individual to perform a specific behaviour.

Thus, behavioural intention is seen to be the precursor immediately which lead to the actual behaviour, meaning that an individual or organisation will react or decide depending on the outcomes of behavioural intention. They added the relationship between the intention and the actual behaviour are influenced by three conditions:

(i) Behavioural intention must be specific in order to predict a specific behaviour;

(ii) the intention must consistent and stable throughout the time given or measured until the time of actual to perform that behaviour; and.

(iii) the individual or organisation has volitional control whether to perform the behaviour or not

However, there is also an argument that an intention is just an intention and it won't always end up as an action. This means that the implementation of this intention is usually not confirmed depending on others such as cognitive, social, emotional, motivational and financial (Reyhanloo et al; 2018).

2.4.2 Behavioural Intention of the Decision-Makers in the Private Sector.

Decision-makers are people within a company who have the power to make strategic decisions like acquisitions, expansion, or investment (Nutt, 2006). A decision-maker is an employee, usually in leadership, who makes challenging decisions that impact how the company operates (Abazeed; 2019). Estrada et al., (2018) affirmed that employees who are strong decision-makers know on how to effectively problem solving and use critical thinking skills. They can effectively weigh possible options and decide on the outcome that best benefits of the company.

Decision-makers are important because their main goals are typically to keep the company functioning efficiently and make decisions that help it continue growing. Decision-makers determine larger company decisions and work to keep it efficiently running so that other employees can focus primarily on their day-to-day projects (Nutt; 2006).

The decision maker's title is going to vary from company to company. The responsibility and importance associated with the position or designation may vary among companies and often depends on the hierarchical structure of the firm (Walker et al., 2019). For example, in some companies, executives post may be one of the decision makers who are directly involve in the process of decision making in that organisation. Delmon (2015) stated that in the business scenario, it is usual and mandatory that executives make numerous decisions and these decisions may be either simple or complex, with a high or low impact. Thus, decision makers in some companies derived from the post executive level upto chairman or president of that company.

Hunter (2017) connotes that there are seven (7) role of decision-makers in the private sector: (i) identify the decision on their own or approach other members of the leadership team to analyze and discuss; (ii) gather information both internally and externally about the issue or subject matters; (iii) listing and determine what the alternatives could be; (iv) analyse and further to predict the outcome; (v) decide which option would be the most effective; (vi) follow through by taking action and implementing the change or transformation; and (vii) ensure the decision is the most effective.

Thus, in this study, behavioural intention refers to the intention of the decision maker in the private sector to participate and willingness to get involve throughout the process of PPP arrangement. Measuring behavioral intention is mainly conducted using such indicators as the intention to participate again, a positive word of mouth and the willingness to recommend (Jung et al, 2016; Suhartanto, 2019; Asadi et al., 2019). The

immediate antecedent of behaviour in the Theory Planned of Behaviour (TPB) is the intention to perform the behavior in question; the stronger the intention, the more likely it is that the behaviour will follow (Ajzen; 2012)

2.5 Independent Variables of the Study

This section illustrates the independent variables of the study that mainly derives from Ajzen's TPB model (attitude, subjective norms and perceived behavioural control) and capture from the reviewing and identification of CSFs in PPP.

2.5.1 Attitude on PPP

In the classical TPB model, attitude towards behaviour is determined by the beliefs and confidence about the respective behaviour. Ajzen (2020) added that belief refers to the probability that the particular behaviour will achieve a desired outcome. It is overall judgment and assessment of actions. This means that attitude towards behaviour can be reflected by the evaluation of behaviour together with its expected outcome. Attitude is an important component in human perception and influences of behavioural intention. Individuals tend to have intention to perform a particular action when attitude is formed based on the outcomes of evaluation. Therefore, the intention to perform those activities depends on the perceived attitude of a person (Ajzen, 2012).

Previous studies have highlighted that involvement and participation in PPP projects could provide the private sector with a variety of technical and economic benefits. Among the benefits from an economic perspective include, higher profits for the private sector as claimed by Osei-Kyei (2016); Ng, et. al., (2012); Akintoye et.al, (2003); access to the new markets including infrastructure and public service (Nisar

T.M., 2013; Geddes et al., 2017; Liu, et.al. 2017); and increase of market share (Kanji; 2002). From the strategic development and sustainable business perspective, participation in PPP projects could enhance the private sector's enterprise development and strategic transformation (Chan et.al. 2012; Li, et.al, 2017), and establish the company's reputation and social image (Liang, 2016).

In the theoretical model of this research, the latent variable "attitude on PPP (ATT)" has been designed by measuring the decision makers' perception of the benefits that the company could gain from the involvement and participation in PPP projects. This study has identified seven observable variables which adapted from Zhang et al (2018) to measure the latent variable – attitude on PPP: (i) profitability; (ii) accessibility to the infrastructure and public service markets; (iii) increased the market share; (iv) benefit for business strategic development; (v) business sustainability; (vi) worthy to advocate; and (vii) established reputation and social image.

2.5.2 Subjective Norm

Ajzen (2012) asserted that subjective norm is the "perceived social pressure to either engage or not to engage in a respective behaviour". The typical method of measuring subjective norm is by asking respondents (or significant relevant parties) to identify the extent of their agreement or approval of a particular behaviour.

Here, the "significant relevant parties" refer to the industry associations, competitors, local society, financial sector and the other private companies who have prior experience in PPP projects. Mol & Birkinshaw (2004), Porter (1975) and Smith et al., (2005) stated that a company's behaviour and decisions are directly affected by its

competitors. Thus, the decision makers'attitude in their organisation on PPP could also be affected by the attitude of their competitors towards PPP.

On the same note, industry associations who have the responsibility to develop codes and norms that regulate the conduct of the private sector, could play a significant role to influence the decision makers' intention into PPP projects (Chan, et. al 2009; Dulaimi, 2010; Long et. al, 2017; Osei-Kyei, 2016; Wang, 2018). Meanwhile, financial institutions as a "significant relevant party" providing finance for PPP projects can also affect the decision makers' attitude towards involvement in PPP projects.

Yuan (2010) claimed that the intention of the decision makers to participate in PPP projects could also be greatly influenced by others' experiences in PPP projects. For infrastructure projects, engagement, support and cooperation of the local community are pivotal in ensuring a project's successful implementation (Andersson, 2008). Therefore, others with prior experience, and the local community can also be among the "significant relevant parties" mentioned in this research.

Accordingly, five observable variables adapted from Zhang et al (2018) are proposed to measure the latent variable "subjective norm" in this study. There are: (i) competitors' attitude towards PPP; (ii) attitude of industry associations towards PPP; (iii) local community's attitude towards PPP; (iv) financial sectors'attitude towards PPP; and (v) attitude of other experienced private sector companies towards PPP.

2.5.3 Perceived Behavioural Control

Perceived behavioural control derived from Bandura's self-efficacy theory, refers to the perceptions on the ability to perform a given behaviour including being

able to show sustained and consistent behaviour over a long period, in the face of obstacles. However in the context of organisation, this translates into technological and knowledge competencies, financial strength, technical capabilites and availability of resources to behave in a certain manner (Ajzen, 2012).

For participation in PPP projects, it is critical for private companies to have high technical capability, solid financial strength and strong borrowing capacity (Akintoye et.al, 2003; Ng et. al., 2012; Osei-Kyei, 2016). It is also an advantage for companies who participate in PPP projects to have a good relationship and networking with government of the day (Chan, et.al. 2012; Liu, et.al. 2017; Ng, et. al., 2012; Petersen, 2011). They also added that private companies with prior and adequate experiences in PPP projects would have a higher level of confidence in considering their participation in new PPP projects.

Overall, in this study, seven observable variables which adapted from Zhang et al (2018) were proposed to measure the latent variable "perceived behavioural control" in this study. They are: (i) financial strength; (ii) technical capability; (iii) adequate experience; (iv) borrowing capacity; (v) good networking and relationship with government agencies; (vi) capable managing PPP; and (vii) information superiority.

2.5.4 Critical Success Factors (CSFs)

This section presents the (i) CSFs' concepts; (ii) CSFs on PPP and (iii) explain the three CSFs that have been identified and selected for this study based on the comprehensive systematic literature review.

a) Concept of Critical Success Factors (CSFs)

Critical Success Factors (CSFs) or also known as Key Success Factors (KSFs) are defined as “areas, processes or activities that organisations must focus on in order to accomplish the desired goals” (Gilani; 2017). In strategic management field, KSFs are associated to the CSFs concept. It is a source of credibility that influence the way a company’s value is perceived by market and is something that a company can invest into (Ellegard & Grunert: 1993).

The term of CSF and KSF are interchangeably used in the literature. Jefferies (2002) and Hardcastle (2005) stated that CSFs was advocated by Rockart and opined that CSFs are those few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his or her own goals. CSFs form the essence and cornerstone of a brilliant strategy, and has the ability to either a positively or negatively influence a project’s performance (Raravi et al., 2013).

Esteves (2004) connotes that over the last thirty (30) years the CSFs has been referred to and applied by several researchers. The evolution of using CSFs can be traced back in 1961 when a discussion on “success factors” in management was initiated (Daniel, 1961). While Anthony et al., (1972) emphasised on the requirement to tailor CSFs into two prospects – (i) a company’s strategic objectives; and (ii) its managers. They stressed on accountability to determine and the need to report CSFs’ performance, compatible on both particular job and industry based on managerial perceptions, and aligned with management planning and control systems. Rockart (1979), combined both Daniel’s and Anthony’s perspectives, and viewed that the organisations may have different CSFs even within the same industry.

b) Critical Success Factors (CSFs) on PPP

Over the past decades, numerous studies have been done by several researchers on CSFs towards PPP projects and also the key focused area for studies on PPP related to the success factors and challenges in PPP. This is supported by a review of PPP research trend from 1998 to 2008 (Ke et al., 2009) and Osei Kyei and Chan (2015) asserted that within the duration of 1990 to 2013, there were 72 published publications on the CSFs for PPP projects.

Tang et al., (2010) acknowledge and pointed out that a major area of interest to researchers is PPP project success. Jones et al., (1996) traced that CSFs in infrastructure delivery should include an efficient public agency partner, and favourable legal framework. While Stonehouse et al., (1996) identified more CSFs – governmental support and involvement, shared responsibility between the public and private sector parties, and public and private sector commitment. Tiong (1996) determined CSFs in PPP project using BOT model indicators such as the technical feasibility of the project; strong private consortium; stable macro-economic environment; and favourable legal framework.

Qiao et al. (2001) listed stable macro-economic environment; technical innovation and technological transfer; availability of financial market; political stability and social support; good governance; and the project's technical feasibility as CSFs. Jefferies et al.(2002), included transparency, competition in procurement, strong private consortium, and exceptional innovation in consortiums' finance as CSFs in infrastructure projects.

Zhang (2005) claimed that there are 47 CSFs on PPP and subsequently he grouped into five main categories namely:

(i) the viability of economic;

(ii) adherence on risks allocation;

(iii) bankable and availability on financing;

(iv) the strength of private consortium; and

(v) favourable economic conditions.

In relevant to that, Cuttaree (2008) stated that many failures of PPP in Europe and Central Asia are associated with insufficient or inadequate of feasibility studies, including ambiguous public funding. He also added that among the common reasons for PPP failures are: (i) poor legal framework and enforcement; (ii) weak of institutional; (iii) the projection of cost versus revenue unrealistic; (iv) poor financial and economic analysis; (v) failed to implement competitive and transparency on procurement; (vi) inappropriate risks allocations; and (vii) public protest and resistance (willingness and capability to pay not been assessed and studied).

In Malaysia, Aziz (2010) and Suhaiza (2013) adopted a questionnaire survey and conducted interview to identify the CSFs on PPP in Malaysia. Aziz (2010) identified 15 CSFs of PPP housing projects while Suhaiza (2013) identified top five CSFs of PPP implementation in Malaysia. Overall, the literature on CSFs of PPP can be divided into two types: (i) studies that generally assess CSFs of PPP projects; and (ii) studies that evaluate CSFs of a specific PPP project.

c) Identification and Selection of CSFs'Cluster

As opined by Ampa and Quraisy (2018), a need analysis is a process for recognising priorities. It is a method to identify the differences between a desired condition and an existing condition. The desired condition is often referred as an 'ideal condition', while the existing condition is often called as 'real condition'.

This study presents comprehensive systematic literature review to identify the most important success factors of PPP. The systematic literature review was conducted via a search in the Web of Science and Scopus engine by using the keywords of "Public Private Partnership" and "PPP", with specific focus on success factors and challenges of PPP in publications ranging from year 2012 to 2018.

A total of 20 papers were identified from both developed and developing countries. Almost 80% of the studies looked at PPP CSFs in general, a few specifically looking at infrastructure projects such as housing, healthcare and port development. Table 2.4 summarises the CSFs mentioned in these 20 articles.

Table 2.4: Summary CSFs in 20 Selected Articles

No.	Author & Subject Studied	CSFs
1.	Abdullah et al. (2016), PPP in Healthcare Services	Fourteen challenges were identified: a. PPP risk management; b. High on projects costing; c. Frequent having additional cost; d. Large project size; e. complexity of projects; f. Difficulty in finalising agreement; g. contract and management weak; h. Fulfilment of diversified design specification; i. design change; j. limitation on innovation of design; k. inflexibility; l. preparation of contract takes too much time; m. inflexible of contract; n. unclear responsibility.
2.	Aerts et al. (2014), PPP on Port Infrastructure	Multi-perspective list of CSFs: a. Concrete and precise concession agreement; b. Clear definition of responsibilities; c. Project's technical feasibility; d. Commitment of partners; e. Appropriate allocation risk and shared; f. Strength of private consortium; g. Realistic cost and benefit evaluation; h. Attractive financing package; i. Open communication; j. Proper stakeholder management; k. Stable economic situation; l. Sound economic policy; m. Political support; n. Special guarantee by the government; o. Shared authority both sectors; p. Competitive procurement process; q. Stable political situation; r. Available financial market; s. Reasonable debt/equity ratio; t. Community support; u. Knowledge transfer.
3.	Ameyaw and Chan (2016), PPP on Water Supply	The five CSFs identified were: a. Partners' commitment & responsibility; b. Consortium in strength position; c. Social support; d. political stable; e. has a designated PPP unit in public sectors
4.	Babantunde (2012), PPP on Infrastructure Delivery	The CSFs identified were: a. Competitive in procurement; b. Thorough assessment on the cost versus benefits: c. Providential legal framework; d. Propitious risk shared and allocation; e. Government guarantee; f. Having political support; g. macroeconomic conditions are stable; h. Reliable economic policy; i. Availability on Financing

No.	Author & Subject Studied	CSFs
5.	Babatunda et al. (2016), on Stakeholder Perception	The six CSFs identified were: a. concession agreement reliable and fair; b. Show good commitment with technical expertise; c. Positive economic condition; d. Good government support with adequate legal system; e. Project is bankable and commitment by stakeholder; and f. having good political support with reliable private partners.
6.	Hadžić, Jugović and Perić (2015), on Management Partnership Models in Croatian seaports	The criteria systematised into five main groups: a. economic-financial criteria; b. organisational criteria; c. technical-technological criteria; d. social criteria; e. criteria of harmonisation with the EU policies
7.	Hwang et al. (2013), on Contractors' Perspective	The CSFs listed were: a. Well-organised government agencies; b. Appropriate risk allocation and sharing; c. Private consortium is strong; d. Transparent in procurement; e. Assesibility on contract documentation f. Adequate and favourable legal framework; g. shared authority and risks between both sectors.
8.	Jin (2012), on Partner's Commitment towards PPP	Partner's organisational components: a. Attitude toward risks; b. Ability to manage a risk; c. Bearing a risk through reward
9.	Liu et al., (2016), on tendering process in China and Australia	The CSFs gathered from the two countries were: a. Adequate and reliable project pipelines; b. Thorough and critical analysis on procurement process; c. Committed on producing quality output specifications; d. Appropriate and adequate PPP guidelines and procedures; e. Knowledgeable and experience of public agency to handle PPP; f. Integrity and transparency in tendering process; g. Public officials' commitment; h. responsiveness and clarity on governance structures; i. In-depth on market analysis; j. tendering procedures interactive and informative; k. regularly discussing and dialogue among key players; l. Process of tendering transparent and encouraging; m. having pre and post evaluation for each phase; n. Availability and efficiency of probity process.

No.	Author & Subject Studied	CSFs
10.	Mota and Moreira (2015), on Non-financial Determinants of PPP	Gave a different set under CSFs: a. Macroeconomic conditions – represented by freedom market access, competitiveness, unemployment rate and stable in currency; b. Legal system – adequate, quality and effective; c. Political stability; d. Adequate PPP experience
11.	Osei-Kyei and Chan (2015), on reviews of related studies	The CSFs listed were: a. Allocation of risks shared in appropriate manner; b. Strength of private consortium; c. Political support; d. Local community support; e. Procurement process transparent and integrity; f. Adequate legal framework; g. Favourable macroeconomic indication; h. Procurement competitive and encouraging; i. Good commitment from all parties; j. Understand and clear on roles and responsibility by all parties; k. Financial strength of the private sector; l. High and innovation on technology; m. Adequate feasibility studies; n. Open communication; o. Thorough project planning assessment; p. Provide Government Guarantee; q. Trust.
12.	Osei-Kyei and Chan (2017), success criteria for PPP projects	List of success criteria for PPP projects: a. Committed on schedule and project timing; b. Mitigate disputes and litigations issues; c. Proper risk management; d. Avoiding political issues and public protest; e. Less project life cycle cost; f. Effective innovation, knowledge and technology transfer;g. Workable within the budget plan; h. Specification of the output meet the requirement; i. Development of local economic; j. Good internal rate return and profitability;k. service operation is reliable and quality; l. Meet the key performance indexes requirement and satisfying the user needs; m. Environmental friendly; n. Long term relationship and partnership; o. Reduced bureaucracy and administration cost.
13.	Osei-Kyei et al. (2017), PPP on Infrastructure	Five CSFs groupings were identified: a. Excellent service delivery and adequate of legal structures; b. mechanism of payment user-friendly and consistency in monitoring project; c. contract management effective; d. appropriate stakeholder management; e. Environmental health and safety control
14.	Panayides et al. (2015), PPP on Ports	Determinants of Ports' success: a. Regulatory quality; b. Market openness; c. Ease to start a business; d. Enforcing contracts

No.	Author & Subject Studied	CSFs
15.	Sarvari et al. (2014) on risk-ranking of Malaysian PPP projects	The risk factors of PPP are clustered into ten groups, namely: (i) political; (ii) construction; (iii) legal (iv) economic; (v)operation; (vi) market; (vii) project selection; (viii) project finance; (ix) relationship; and (x) nature factor.
16.	Sinisammal et al. (2016), on PPP in Healthcare and Social Services	Three categories of CSFs and their components were identified: a. Nature of partnership (with dialogic cooperation, control and exercise of power); b. business environment (business objectives, outcome and incongruity); c. tension builders (bureaucracy and uncertainty)
17.	Suhaiza (2013), on PPP Implementation	The CSF clusters were: a. Good governance; b. Responsibility & Commitment both entities/sectors; c. Adequate of legal framework; d. Economic policy sustainable; and e. Availability of finance
18.	Trangkanont et al. (2014), PPP on Low-cost Housing	Ten CSFs were identified: a. Tense on Policy; b. Ineffective change management of publics' partners; c. Poor performance of contractors; d. Poor tender documentation; e. Public partner's undermined organisational culture and staff behaviour; f. Financial constraint; g. Political risks; h. Crisis in economics; i. Policy risks and law; j. Lack of finance availability
19.	Ullah et al. (2017), on Concession Periods of PPP	Eighteen CSFs were identified: a. Severity of risks involved; b. Tool price; c. Government effectiveness; d. Service price; e. Sale price; f. Strategic quality management; g. Operation revenue in year; h. Number of vehicles; i. Net present value; j. Investment attraction; k. Political stability; l. Income in year; m. Strength consortium; n. Revenue stream; o. Adequacy in funding; p. Securitisation of asset; q. Equity allocation; r. Return on investment
20.	Warsen et al. (2018) on the factors that really make PPP work	The main CSFs in PPP were: a. Trust; and b. Network management strategy

(i) Stage I - Thematic Analysis

From scrutinising the 20 articles as shown in Table 2.4, a total of 161 critical success factors (CSFs) were identified and thematic analyses were then conducted done on them. The results of the tabulation and thematic analysis conducted derived the CSFs into 77 themes. This is shown in Table 2.5. From there, these 77 CSFs themes were further analysed to shortlist a smaller number that could be further processed for a higher degree of significance. The latter to be done in Stage II.

Table 2.5: List of 77 Themes of CSFs Mapped to the Selected 20 Articles

No.	Themes/Factors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Frequency
1	Bureaucracy	X																				1
2	Uncertainty	X																		X		2
3	Appropriate risk allocation and sharing		X	X				X		X	X					X	X					7
4	Government support		X					X			X			X		X	X					6
5	Strategic quality management		X																			1
6	Investment attraction		X																			1
7	Political stability		X			X		X			X		X		X		X			X		8
8	Strength consortium		X							X	X				X		X				X	6
9	Facilities management			X																		1
10	Difficulties in reaching agreement			X																		1
11	Complexity			X																		1
12	Proficient service delivery				X																	1
13	Adequate legal structures				X			X	X	X							X	X		X		7
14	Simplified payment mechanism and consistent project monitoring,				X							X										2
15	Environmental health & safety control				X																	1
16	Policy pressure					X																1
17	Public partners' ineffective change management					X																1
18	Financial availability		X			X		X	X		X					X	X					7
19	General attitude to a risk						X															1
20	Perceived one's own ability to manage a risk						X															1
21	Perceived reward for bearing a risk						X													X		2
22	Competitive procurement process					X		X		X	X		X	X			X					7
23	Thorough and realistic assessment of the cost and benefits,							X			X											2
24	Favourable framework							X														1
25	Stable macroeconomic conditions							X			X						X					3
26	Sound economic policy							X	X		X		X			X				X	X	7

No.	Themes/Factors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Frequency
27	Good governance								X													1
28	Commitment and responsibility of public and private sector								X		X			X	X	X	X					6
29	Well-organized public agency									X												1
30	Clarification of contract documents									X												1
31	Shared authority between public and private sector									X	X	X										3
32	Concrete and precise concession agreement										X											1
33	Clear definition of responsibilities										X	X										2
34	Project feasibility study										X	X			X		X					4
35	Open communication										X						X					2
36	Proper stakeholder management					X					X											2
37	Reasonable debt/equity ration										X											1
38	Community support										X				X		X					3
39	Knowledge transfer										X										X	2
40	Regulatory quality											X										1
41	Enforcing contracts											X										1
42	Quality of project brief focusing on output specification							X						X								2
43	Availability of PPP guidelines and standardised documentation													X								1
44	Involvement of public officials and leadership													X					X			2
45	Clarity and responsiveness of governance structures													X			X					2
46	Depth of market sounding													X								1
47	Interactive tendering procedures													X								1
48	Constant dialogue with key market players													X								1
49	Balance between streamlining tender processes and maintaining competition													X								1

No.	Themes/Factors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Frequency
50	Availability of ex-post evaluation and auditing													X								1
51	Adequacy and efficiency of probity process								X					X								2
52	Reliable concession arrangement with due diligence															X		X				2
53	Technology innovation																X	X			X	3
54	Detailed project planning							X									X					2
55	Trust																X		X			2
56.	Adherence on time completion																	X				1
57.	Effective risk management																	X				1
58.	Reduced public and political protests																	X				1
59.	Reduced project life cycle cost																	X				1
60.	Adherence to budget																	X				1
61.	Meeting output specifications																	X				1
62.	Local economic development																	X				1
63.	Profitability																	X				1
64.	Reliable and quality service operation																	X				1
65.	Satisfying the need for public facility/service																	X				1
66.	Environmental performance																	X				1
67.	Long-term relationship and partner																	X				1
68.	Reduced public administrative cost																	X				1
69.	Reduced litigations and disputes																	X				1
70.	Network management strategy																		X			1
71.	Market risk																			X		1
72.	Construction risk		X		X						X					X				X		5
73.	Project selection																			X		1
74.	Relationship risk factor																			X		1
75.	Natural risk factor																			X		1
76.	Social criteria							X						X							X	3
77.	Harmonisation with the EU policies																				X	1

(ii) Stage II - Grouping into Clusters

At this stage, as many of the themes were quite similar, in terms of meaning and/or functions, or synergistic nature, the 77 CSFs themes were combined and consolidated to nine (9) CSFs clusters of as shown in Table 2.6.

Table 2.6 : Clusters of CSFs (consolidated from 77 themes)

No.	Clusters of CSFs	The 77 CSFs
1.	**Economic & Financial** Perić & Jugović (2015); Babatunda et al., (2016)	1. Financial availability 2. Stable macroeconomic condition 3. Sound economic policy 4. Depth of market sounding 5. Local economic development 6. Profitability
2.	**Governmental Influence** Babatunda et al. (2016); Osei-Kyei and Chan (2017)	1. Competitive procurement process 2. Reduced public and political protests 3. Political stability 4. Reduced public administrative cost 5. Government support 6. Bureaucracy 7. Policy pressure 8. Good governance 9. Proficient service delivery 10. Well-organised public agency 11. Involvement of public officials and leadership
3.	**Legal Framework** Suhaiza (2013); Osei-Kyei and Chan, (2016)	1. Regulatory quality 2. Reduced litigations and disputes 3. Adequate legal structures 4. Enforcing contracts' 5. Clarification of contract documents 6. Concrete and precise concession agreement

No.	Clusters of CSFs	The 77 CSFs
		7. Difficulties in reaching agreement 8. Adequate legal structures 9. Availability of PPP guidelines & standardised 10. Reliable concession arrangement with due diligence
4.	**Organisational** Perić & Jugović (2015); Warsen et. al. (2018)	1. Strength of consortium 2. Strategic quality management 3. Proper stakeholder management 4. Network management strategy 5. Facilities management 6. Proficient service delivery 7. Clarity and responsiveness of governance structures
5.	**Project Viability** Osei-Kyei and Chan (2015); Mota and Moreira (2015); Fahim et al. (2017)	1. Thorough and realistic assessment of the cost and benefits 2. Reduced project life-cycle cost 3. Meeting output specifications 4. Adherence to budget 5. Reliable and quality service operation 6. Project feasibility studies 7. Detailed project planning 8. Bankable project with adequate stakeholder involvement 9. Favourable framework 10. Investment attraction 11. Complexity 12. Simplified payment mechanism, consistent project monitoring 13. Reasonable debt/equity ratio 14. Quality of project brief focusing on output specification 15. Project selection

No.	Clusters of CSFs	The 77 CSFs
6.	**Risk** Sarvari et, al. (2014); Jin et al (2012); Surangkana et al (2014).	1. General attitude to risk 2. Perceived ability to manage a risk 3. Perceived reward for bearing a risk 4. Appropriate risk allocation and risk-sharing 5. Adherence on time of completion 6. Uncertainty 7. Construction risks 8. Market risks 9. Effective risk management 10. Relationship risk
7.	**Social & Environment** Sarvari et, al. (2014); Perić & Jugović (2015)	1. Environmental performance 2. Harmonisation with the EU policies 3. Social criteria 4. Community support 5. Environmental health & safety controls 6. Satisfying the need for public facility/service
8.	**Trust** Warsen et al. (2018); Osei-Kyei and Chan (2015)	1. Open and constant communication 2. Long-term relationship and partnership 3. Shared authority between public and private sector 4. Clear definition of responsibilities 5. Constant dialogue with market players 6. Balance between streamlining tender processes and maintaining competition 7. Availability post evaluation & auditing 8. Adequacy, efficiency of probity process 9. Interactive tendering procedures 10. Commitment and responsibility of public and private sector
9.	**Technology & Innovation** Perić & Jugović (2015)	1. Technology innovation 2. Knowledge transfer

(iii) Stage III - Selection of CSFs

The consolidated nine (9) clusters of CSFs are used as the items in the survey questionnaire. This consolidation exercise was required for the purpose of reducing the number of items, and to allow the determination of the most significant factors or those with higher significance. The respondents were chosen from professionals/practitioners and academicians who are experts on the field of PPP and project management from both the private and public sectors. Respondents were requested to validate the degree of importance of all these nine clusters of CSFs by giving scores for their ratings. A Likert Scale was used to rate the degree of criticality for each factor. The Likert Scale used indicates 1 = extremely unimportant to 5 = extremely important.

The data or factors that were selected were based on an achieved mean score value of more than 3.95. The questionnaire was administered to 30 selected respondents, consisting of twelve (12) academicians, twelve (12) practitioners/professionals from the private sector, and six (6) practitioners/professionals from the public sector. All respondents selected had been actively involved in PPP projects. The questionnaire was technically reliable as it scored 0.701 for the Cronbach's Alpha value.

Table 2.7: Reliability Measures of the CSF Score

Cronbach's Alpha (α)	**Median Score**	***N* of Items**
0.701	3.95	9

Reliability test measures whether the scale used would generate the same reading each time it is used on the same type of subject and in the same condition. Salkind, (2007) said that the reliability is a test to measure the consistency of the results, where a test

conducted repeatedly should produce the same result for each test. Piaw (2006) opined that correlation values ranging from 0.70 to 0.95 indicate satisfactory reliability. Sekaran & Bougie, (2016) reiterated that a reliability test result of Cronbach's Alpha (α) value of less than 0.61 is deemed weak, 0.61 to 0.79 is acceptable, and a value of 0.8 is high and accepted. Based from survey that was administered to 30 selected respondents, the mean score value of all the factors were computed and shown in Table 2.8.

Table 2.8: The Results of the Mean Score Value

No	Item	Total Score	Total Mean Score
1.	Risks	114	3.80
2.	**Governmental Influence**	**128**	**4.27**
3.	Economic & Financial	110	3.67
4.	**Project Viability**	**133**	**4.43**
5.	Social & Environment	109	3.63
6.	Legal Framework	111	3.70
7.	Organisational	104	3.47
8.	**Trust**	**128**	**4.27**
9.	Technology	100	3.33

Table 2.8 above shows that all CSFs resulted with a mean score of more than the median score of 3.95 are identified as above average. They can thus be selected to be further researched into, to study and prove their positive contribution on the success of the PPP. Thus, from the comprehensive review of literatures of this study, three (3) CSFs of PPP have been identified and selected are:

(i) governmental influence;

(ii) project viability; and

(iii) trust

Furthermore, the selection of these three (3) CSFs is very significant as they are closely related to the concept of PPP itself which:

(i) government roles as main regulator and chief initiator in PPP (Wibowo, Alfen (2015) and Osei-Kyei and Chan (2016);

(ii) in any project proposal especially involved huge capital expenditure, feasibility study on the projects should be thoroughly done to asess the viability of the proposed projects by looking into the economic, financial, profitability, technical and risks perspectives (Osei-Kyei and Chan (2015); Mota and Moreira (2015); Ullah et al. (2017)); and

(iii) trust as the main element of the level of cooperation, commitment among partners in any cooperation and partnership deal (Warsen et al. (2018); Osei-Kyei and Chan (2015).

2.5.5 Governmental Influence

Governmental influence is essential to both PPP projects development and to lure the investment by private entities in highly competitive markets. Private sector participation in PPP ventures does not mean government authorities are able to take a back seat. Since PPP is a smart partnership arrangement, both public and private support and cooperation are essential especially in the development of infrastructure projects. This is particular true in the pre-construction phases of a project (Li et al., 2005).

The mechanism of government support in the form of guarantee is also crucial for establishing confidence of the private companies to engage in the PPP project.

Adequate and accepatable legal framework applicable to PPP is essential in establishing the parameters and "rules of the game" for private sector getting into the field and involve confidently. There is higher chance for success in PPP projects where a thorough feasibility study on project viability has been undertaken by both government and private entities (Babatunde, 2012). In addition, a stablilty in political situation of the country positively correlates and impacts on PPP success as PPP is considered a public policy tool (Li et al., 2005). Normally, lack of political support or too many political interferences may delay approval especially government expenditure for a public project (Jacobson and Choi, 2008). Thus, governmental influence is a very important factor for PPP implementation and success (OECD, 2008).

Aerts, (2014) claimed that PPP may require governments facilitate to fill any viability gap i.e. financial assistance for projects, which can be in the form of capital contributions, facilitation funds or subsidies to bridge the differences in term of costs. These government provisions can be factors in and calculated into the government's estimates for budgeting and disclosure purposes. While there is no general template or recommendation on the level of active public support for PPP projects, a project that requires a high level of government financial support may not be viable. Hence, the project should either explore other procurement models, or be deferred.

In the context of toll expressway projects in Malaysia, the government can support the private sector into two key areas – land matters and financial assistance (Zakuan and Suffian, 2009). UKAS generally accepts that it is the responsibility of the government (both the federal and state) to acquire and provide the land rights for the toll expressway projects to the private sector party. However, the associated costs for

the land acquisition (which can include, for example, compensation to squatters) normally to be borne by the concessionaire. In the case of compensation, the concessionaire's willingness to pay the agreed amount will ease the acquisition process (Nambiar, 2011).

Those lands that require for the construction of expressway is typically acquired by a state authority on behalf of the federal government before designated as Federal Reserve Land, upon which, the government grants the concessionaire an exclusive license to use and occupy it (UKAS, 2017). With regard the provision of financial assistance, depending on the project's financial requirements, the government may provide loans at lower than market interest rates and/or compensate for any shortage in revenues agreed under the concession agreement. For example, the compensation for the North-South Expressway (NSE) project took the form of a government loan and guarantee, and not cash (UKAS, 2017).

2.5.6 Project Viability

Investment in infrastructure projects play an important role in the sustainable and efficiency of the development progress in the country. In the modern era, PPP provides the private sector an opportunity to contribute to nation-building in the development of necessary infrastructure projects. Nevertheless, investment in infrastructure projects largely depends on several key factors – for example, the feasibility study on the project viability can assist the private sector in making decisions on various aspects of the project such as financing, designing, construction, operation and maintenance (Coelho et al., 2013; Zhao et al., 2010); Wu et al., 2016; Ye & Tiong, 2003; and Zhang, X., 2006).

Coelho et al.(2013) states that the willingness of private sector to partner with the public sector in PPP also depending on the project's economic and financial analysis, which looks at the projects' viability and benefits in both the near future and throughout the project life cycle. In deciding on whether to undertake the investment or not, many aspects need to be considered. While PPP provides an invaluable opportunity for private entity to actively contribute and engage in public sector programmes or projects, the economic and business considerations need to be addressed (Ye and Tiong;2003).

From various methods of capital budgeting studied, some studies have selected to investigate the Internal Rate of Return (IRR) Method. IRR is that discount rate, for which the NPV value is zero. This can be obtained by setting the Nett Present Value (NPV) method as zero, and determining (by trial and error) the value of discount rate. An IRR calculated at more than the market interest rate, the project is considered viable for execution (Bin, 2018). In relation to that, Zhang, X., (2006) added that financial analysis is done to identify the probability of achieving the private party's investment goals and desired benefits from the project in the given concession period. Rashid et al. (2006) added that the activities could enhance the financing model of PPP projects include providing support to government agencies, competent in the procurement process to formulate requests for proposals, conduct proper feasibility assessments, and establish value for money and formulate basic PPP action plans.

Nevertheless, in determining whether a project should be given the go ahead, many considerations come into play. Taking cases of PPP projects in other Asian countries, Ricote (2014) explained on the scenario of the infrastructure projects in the Philippines such as expressway are subjected to the economic feasibility studies. The

analysis is conducted on the "total project" basis, where the total project costs are imputed into the analysis to look into the overall of economic viability of the project. The overall assessment is then made on whether these capital costs exceed the projected benefits to be derived from the project, from which a decision is made on the implementation of the project, or otherwise. Generally, private sectors are profit oriented, thus a key factor encouraging private sector to manage and operate PPP projects more efficiently is the return on investment (Li et al. 2005).

However, Ye and Tiong, (2003) argued that without disparage the project viability and maintaining the attraction for the private sector to develop and operate projects efficiently, it is important that the rates or adjustments in tariffs/tolls mechanism should continue to safeguard the interest of the consumers. Bin (2018) highlighted that in PPP, particularly on toll expressway, the viability of project is also dependent on the negotiation for setting the level of government contribution and the toll fees for the project. These two factors influence both the financial scenario of the private companies in achieving revenue targets from the toll collections, and the economic viability of the project. Futhermore, it becomes even more of a concern as user/consumer demand and use of the facility is directly affected by the chosen toll fee level.

2.5.7 Trust

In the previous studies, the concept of trust is stated and illustrated in many ways. For the purpose of this study, the concept of trust is taken from the perspective of the expectation as an actor:

a. Reliable to accommodate the responsibilitis and obligations (Zaheer et al., 1998);

b. Act and react in a predictable manner (Anderson & Weitz, 1989); and

c. Fairly in every circumstances and situation even during the opportunism is present (Anderson & Narus, 1990, Bromiley & Cummings, 1995).

According to Lane and Bachmann (2000) there is a common agreement that to trust is "to expect that the other will refrain from opportunistic behaviour, even if the opportunity arises". Trust can thus be seen as an action that can be deem or perceived as taking a risk as the other party is vulnerable to opportunistic behaviour. Nooteboom, (2002) reiterated that this kind of risk is taken in the belief and perception that the other party can be trusted. He added that this understanding is taking into consideration that trust is intricately related to risk which means without the element of risks, trust simply not applicable.

Trust is to be developed, and requires constant interaction. It needs open communication on intentions, honouring of commitments and collaboration without taking advantage of the other party's vulnerabilities (Nooteboom, 2002). The possibility of risks is always present in any contractual relationship or partnership; thus, trust is crucial for the smooth execution and functioning of partnerships. "It is unlikely any parties will engage in risk-taking behaviour without trust because it can be abused by opportunistic behaviour" (Grotenbreg et al. 2014; Klijn, Edelenbos, & Steijn 2010; Nooteboom 2002).

Many previous studies have highlighted on the significance of trust in alliances and collaborative governance (Grotenbreg et al. 2014; Klijn, Edelenbos, & Steijn 2010). It is also a significant element in partnerships, as it promotes cooperation and creates greater understanding and stability by virtue of manaing or reducing perceived risks in transactions and cooperative relations (Nooteboom 2002; Sako 2000). The presence of trust in partnerships also allow fewer complex processes, reducing the need for complex and detailed contracts and allow room for creativity (Grotenbreg et al. 2014).

Garsse and Verhoest (2007) connoted three (3) different types of trust in PPP. The first type of trust is based on the contractual agreements, where partners "safeguard" each other's performance by putting in place mechanisms that reward delivery of right outputs and punish delivery of wrong outputs (such as delays, or low-quality outputs). Trust in this context implies a form of competence trust (Sako, 2000), where partners are required to be positive in their expectations of the other partner's ability to deliver. The second type of trust refers strongly to the notion of goodwill (Nooteboom, 2002; Sako, 2000). The notion of goodwill refers to the intentions of the parties to behave in the expected manner as stipulated in the agreements made.

In this case, trust is based on the identification of the needs and intentions of each partner, and when achieved, reflects goodwill trust at its highest level. This type of trust addresses relational problems within the context of the other partner's general image. This strong-form trust (Barney and Hansen, 1994) is able to result in reduced transaction costs, even in the face of significant vulnerabilities. The third type of trust is one that exists within the network. This form of trust goes beyond the bilateral

relationship of goodwill trust, and is actually a by-product of the social control (Sako, 2000), resulting from the forming of a clan culture.

According to Garsse and Verhoest, (2007) trust plays a pivotal role in contract relationship combining the elements of formal contractual agreements with the presence of less formal social mechanisms. In addition to that, Trusell (2015) reiterated that trust moderates relationships and manages organisational issues such as disengagement and intentions to quit.

Hence, through a systematic literature review exercise, the relevant elements of CSFs for PPP have been identified namely governmental influence, project viability and trust. Finally, all these three (3) selected CSFs have been integrated and as such this study consists of five (5) independent variables namely are: (i) attitude; (ii) subjective norms; (iii) perceived behavioural control; (iv) governmental influence; and (v) project viability with trust as a moderator variableganisational issues such as disengagement and intentions to quit.

2.6 Hypotheses Development

Hypothesis is a hypothetical interpretation of a set of facts that can be tested by further investigation and basically it is a statement that describing the relationship between two or more measurable variables (Mourougan and Sethuraman; 2017). Hypothesis require to be structured before the data-gathering and interpretation phase of the research. Creswell (2002) added the hypothesis should be a formal statement to illustrate the expected relationship between an independent and dependent variable.

Normally in quantitative methods, the questions and hypotheses have been used to compose and focus on the objective of the study. Either hypothesis or research questions used to compare variables, to relate and describe them. It is measured separately by independent and dependent variables.

2.6.1 The Relationship between Attitude, Subjective Norm, and Perceived Behavioural Control with Behavioural Intention of the Decision Makers

Several studies have provided adequate evidence on the causal relation between attitude, subjective norm and perceived behavioural control with behavioural intention of the decision makers in the private sector. In the contexts of decision makers' attitude in the private sector, Boyne (2002) assumed that mainly driven by profit oriented and self-interest, as a result investment benefits contribute to the decision-making process.

Tao et al (2017) stated that subjective norm is referred to as the behavioural perception of a decision-maker from their important peers' or groups' actions which include the imitation effect by former private investors that has influenced others' future behaviour. While perceived behavioural control is a perception that reflects the resources and barriers of an expected behaviour (Venkatesh et al 2008).

In the hotel and tourism sector, Han et al. (2010) revealed that similar factors of attitudes, subjective norms, and perceived behavioural control positively affected customers' intention to stay at a green hotel. While in environmental related area, Lam and Hsu (2006) suggests that factors such as attitudes, subjective norm, and perceived behavioural control belief are vital factors affecting people's intentions to conserve their total daily water usage. Similarly, Howell et al. (2015) reveals that attitudes,

perceived behavioral control and subjective norm influence respondent's behavioural intention towards the anti-introduction of aquatic invasive species.

Although numerous previous studies have widely discussed the positive correlation between attitudes, subjective norms and perceived behavioural control with behavioural intentions, a study by White and Yu (2005) reveal otherwise where the correlation between social norms and behavioural intentions is regarded as minor. On the other hand, Yean et. al., (2015) findings indicate that perceived behavioural control had no influence on intention to return to work among Social Security Organization's (SOCSO) insured employees. Additionally, a study by Zhang et al. (2018), revealed that subjective norm has a negative causal effect towards behavioural intention of the private sectors in PPP participation. Thus, based on the review of literature, this study is designed to test the following hypotheses:

H1: The decision makers' attitude has a positive effect on their behavioural intention towards involvement in PPP toll expressway projects.

H2: Subjective norms have a positive effect on the behavioural intention of the decision makers in the private sector towards invovement in PPP toll expressway projects.

H3: Perceived behavioural control has a positive effect on the behavioural intention of the decision makers in the private sector towards involvement in PPP toll expressway projects.

2.6.2 The Relationship between Governmental Influences with Behavioural Intention of the Decision Makers.

Zhang et al. (2018) indicates that the government is both the forerunner together with private sector and also chief regulator of the PPP framework. These dual roles put it in a position to influence and motivate the private sector participates in PPP. Literature also shows similar understanding on the significant of government's role as follow: to fulfil the obligation in the PPP contracts (Zhang et al. 2016); responsible in creating fair and competitive market in PPP (Effah et al. 2017; Ye et al. 2018; Zhang, 2018); enact relevant legislation and policies (Li, Akintoye and Hardcastle 2005; Liu et.al. 2016); allocation of risks appropriately (Ng et al. 2010; Osei-Kyei et al. 2005); and providing financial availability to private companies to facilitate their involvement in PPP projects (Chan et al. 2010; Osei-Kyei et al. 2005). Wu et al. (2016) stated that governmental supervision influenced the contractor to make decision on C&D waste management. Ding et al (2016) added that governmental regulations and corresponding supervision can significantly affect the behaviour of contractors. Normally, the influencing path is often direct which means anything that forbidden by the government, it must be comply by the private companies as mentioned in the regulatory requirements (Lu et al., 2015). Based on the aforesaid assertions, it is hypothesised that:

H4: Governmental influence has a positive effect on the behavioural intention of the decision makers in the private sectors towards involvement in PPP toll expressway projects.

2.6.3 The Relationship between Project Viability with Behavioural Intention of the Decision-Makers.

Project viability exist due to the nature of the private sector as a profit orientation. Hao et al (2008) states that primary objective of private companies is reducing project costs and maximising profits. Wu et al (2016) introduced project constraint as a sub-set of project viability which directly influence the participation of the private companies in the project. They added that in the construction projects, there are many unpredictable constraints incurred such as time, funds, materials, machines, and labour. Thus, it is vital for decision makers to thoroughly evaluate before selecting the most appropriate measures and action plans based on the project constraints.

Zhang (2006) stressed that technical feasibility study is vital in providing an imaginative technical solution for any PPP projects. It allows improvements in constructing PPP projects by considering the responsibility of all project stakeholders. He added on the basis of technical feasibility and constructability, maintainability is a necessary factor be considered in the operational stage of PPP projects. Additionally, Zhang et al (2018) highlights that having accessibility on financing requirement greatly help and increase the competence and capability of the private sector to perform in PPP projects.

Thus, it is vital for the decision makers to assess on the funding availability and future liabilities before participate in mega- project. In other studies, Semple and Turley (2013) commented that project viability had significant relationships with infrastructural financing through PPP. Hence, the hypothesis on project viability is stated as follow:

H5: Project viability has a positive effect on the behavioural intention of the decision makers in the private sector towards involvement in PPP toll expressway projects.

2.6.4 The Relationship between Behavioural Intention of the Decision Makers and Actual Behaviour (Involvement).

Bhatt (2011) stated that behavioural intention is an indication of state of readiness or willingness to act or perform a given task or behaviour. It can be considered as an immediate antecedent of the behaviour. However, Brandstatter, Lengfelder and Gollwitzer, (2001) states that the concept of intention has a distinction between goal intentions and implementation intentions.

In the previous studies, behavioural intention has play vital roles in the relationships towards actual behaviour such as Karim et al. (2013) on participation separation of food waste at source; Tang (2016) on decision-making on bidding for PPP; Begum et al. (2009) on waste management in the construction industry in Malaysia; Al-Sari et al. (2012) on construction waste management in occupied Palestinian territory; Song et al (2016) on behaviour in relation to the choice of tourism destination; and Majid et al. (2018) on entrepreneurial intention.

In this study, five observable variables adapted from Zhang et.al (2008) will be measured for behavioural intentions of the decision makers towards invovement in PPP toll expressway. They are: (i) having intention to participate in PPP projects; (ii) willing to increase the proportion of PPP; (iii) being ready to participate in PPP bidding; (iv) higher interest in PPP projects compared to conventional projects; and

(v) willing to recommend partner companies to participate in PPP projects. Thus, the hypothesis on behavioural intentions stated as follow:

H6: The behavioural intention of the decision makers in the private sector has a positive effect on their involvement behaviour in PPP toll expressway projects.

2.6.5 Trust as the Moderator in the Relationship between Behavioural Intention of the Decision Makers and Actual Behaviour (Involvement).

Leonidou and Talias (2008) emphasized that many researchers alluded on the role and significant of trust in social exchange as trust is an important relationship and interpersonal construct. Gilson (2003) added in underlie economic development, government legitimacy agencies and promoting results that beneficial to the public or society interest, the trust component is an important for building that relationships.

Molm et. al., (2000) defined trust as "expectations that an exchange partner will behave benignly, based on the attribution of positive dispositions and intentions to the partner in a situation of uncertainly and risk". Basically, the actors that involved in social exchange will evaluate any kind of cooperation relationship in a behavioural context and look beyond the short-term inequities but rather focus on long-term benefits (Luo, 2002). Thus, in line with PPP contexts, the social exchange is based on enduring long-term relations as opposed to one-shot transactions in a market context (Cook & Cooper, 2003) and unlike economic transactions which are conditioned by the legal framework, the persistence of social exchanges is dependent on trust between the partners.

According to Berry (1995) trust is an important element for successful relation which has multilevel view between individuals, groups and organisations (Rousseau et al., 1998). Moorman et al. (1993) explained trust in the contexts of market research relationships which predicted by interpersonal factors. They defined trust as an intention of behavioural willingness. While Crosby et al. (1990) claimed that any future sales opportunity is dependent on relationship quality such as trust. In that case, the component of experience influences by overall satisfaction, trust and commitments. Garbarino and Johnson, (1999) also stated that trust and commitment have an impact on future intentions. Smith and Rybkowski (2012) stated that the projects will become more effective once having high level of trust between participants. Wu et al (2017) view that trust facilitates the collaboration process which enhances mutual realibility on the partcipants'involvement until the completion of the project. Ke et al. (2015) claimed that there is a positive effect between trust and cooperation in the construction projects. In addition to that, Yousaf (2018) identified the role of trust as a moderator in the relationship between a project manager's servant leadership and team building. Other studies by Moon et al., (2017) found that in the environmentally significant behaviour, trust functioned as moderator only for a lower trust group member, not a higher trust group member. The reason is because trust already embedded value and practiced among higher trust group members and irrelevant for the role as a moderator for environmentally significant behaviour.

Trust is a new emerging variable in the context of management and few examined its moderating effect (Tlaiss and Elamin, 2015; Van et al., 2014; Wang et al., 2014). Through in-depth exercise on the literature review particularly on the role of trust, this study takes the theoretical conclusion is that trust is an obligatory concept

in the study of PPP. As such, innovating from previous literature and research, this study investigates trust as a moderator variable to investigate its intensifying effect between behavioural intention and actual behaviour. Therefore, the following hypothesis is stated:

H7: Trust has a moderating effect on the relationship between behavioural intention and involvement behaviour in PPP toll expressway projects.

2.7 Application of Theories

Previous studies indicate that variety of theories such as resource-based view theory, transaction cost theory, and social exchange theory (SET) have been actively applied to elucidate the validity of partnerships concept. As the focus of the study is about influencing engagement in partnership phenomena which specifically in PPP, thus, it is appropriate to explore the theory that could explain on the social behaviours in economic undertakings, such as the exchange of risks, knowledge, costs, information and resources between parties and strengthen the relationships among partners. Furthermore, in the context of PPP, both parties weigh on the potential rewards and risks of social relationships for the purpose to maximize benefits and minimize costs.

Precisely, this study is to identify the influencing factors of decision makers' behavioural that derived from the social interaction in the contexts of PPP and provide a psychological account of how these factors determine actual behaviour (involvement). Several theories have been applied to this study and analyses the basic correlations between the factors in determine the intention and willingness of decision makers in the private sectors to be involve or participate in PPP projects.

Thus, Social Exchange Theory (SET) developed by George Homans in 1958 and Theory of Planned Behaviour (TPB) are applied as the underpinning theories for this study which are much related on the phenomena of involvement in social behavioural and relationship particularly in PPP.

2.7.1 Social Exchange Theory (SET)

Social exchange theory (SET) is one of the major theories of social interaction in the social sciences field and is one of the most important conceptual models for understanding organizational behaviour (Redmond, 2015). It is a theory that interpreting society as a series of interactions which are based on estimates of rewards and punishments. According to this view, the interactions are mainly determined by the rewards or punishments as expected to receive from others and evaluate it using a cost-benefit analysis model regardless consciously or subconsciously.

The core concept of SET sees social behaviour as a result of a process of interactive exchanges. According to Cropanzano and Mitchell (2005), SET is among the most influential paradigms for understanding organisational behaviour in the phenomena of social relationship. SET suggest that there is certain amount or level of giving and take in each relationship and it is the valuing of the benefits and costs within them that determine whether or not in deciding of involvement on that particular social association.

Leonidou and Talias (2008) stated that the existence of actions in the social relationships are motivated from the gains that they are expected to get or/and, in fact getting from others. It means, SET posits that based on subjective cost-benefit analysis

and comparison of alternatives, the existence of intention to choose create and maintain the relationship derived from the maximization of the benefits. It also been called as 'economic' theories of relationships that describe relationships as a series of exchanges aiming at balancing rewards and costs.

Basically, in SET the outcome of positively or negatively about the relationships are based on the combination of three factors: (i) cost-benefit analysis; (ii) comparison level; and (iii) comparison level of alternatives (Redmond; 2015). In the cost-benefit analysis, the calculation of relationship worthwhile by subtracting its costs from benefits or rewards (Worth = Benefits – Costs). Costs refer to the elements in a relationship that have negative value to an individual or organisation and benefits or rewards refer to the elements that have positive value such as acceptance, validation, and companionship. Thibaut and Kelley (2008) suggest on the comparison level (CL) as a standard of expectation in evaluating the satisfaction of relationship.

Similarly, in evaluating the stability and commitment of the relationship by considering the alternatives outside of the relationship (comparison level for alternative, CLalt). Thus, according to Rusbult and Buunk (1993), from the combination of three factors, the ultimate overall formulas as follows:

(i) Benefits – costs = Worth (Expectation level)

(ii) Benefits – costs – comparison level = satisfaction level.

(iii) Satisfaction level – alternatives + investments = commitment level

Donaldson and O'Toole, (2007) viewed SET as an inter-organisational governance in the context of a social structure where organisations are interdependent

and rely on reciprocation. They added in SET, trust and equity are the major concern. In social exchange paradigm, the successful of partnerships closely related to the roles of trust, goodwill, commitment, reciprocity and benevolence. In fact, this viewed has been established by Mohr and Spekman (1994) that trust is the headstone of strategic partnership and Luo (2002) claimed that building trust is one of the core components within SET. Hence, trust is the most important variable of the SET. Morgan and Hunt (1994) stated that the relationship of cooperation will be gained by having of trust. Additionally, once the trust exists, the commitment of relational continuity of cooperation would likely to increase as the partners create more value. Nammir et al (2012) added that the relationship of cooperation would increase and sustained that derived from the level of trust and commitment. According to Stafford (2008), SET more flexible in applying to sharing economy compared to economic exchange theories due to it varies in its elements, and the factors of costs and benefits cannot be reduced to a single quantitative exchange rate.

In this study, SET is deployed to explain the moderating effect of trust. Previous studies indicated that one of the primary variables of SET is trust (Liang, Liu and Wu, 2008) and has been used to examine the organisational level in explaining the mediating effect of trust (Tlaiss and Elamin, 2015). In addition, the use of trust in the context of management has received less attention (Wang et al., 2014). Thus, in this study, it is expected that the SET can explain the moderating effect of trust.

2.7.2 Theory of Reasoned Action (TRA)

Nonetheless, from SET by Homans brought the researcher to explore the continuation and expansion of the theory which is from the Theory of Reasoned Action

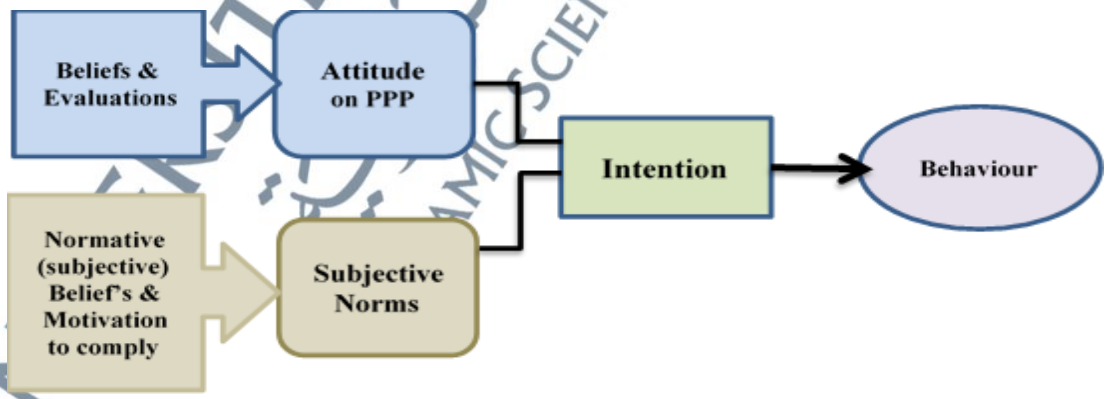
(TRA) by Azjen and Fishbein (1980) that is much related with the variables involved; followed by the improvement and extension of the original TRA through incorporates of self-efficacy theory by Bandura (1977), resulted a new theory known as Theory of Planned Behaviour (TPB) by Azjen (1985). Martin Fishbein developed TRA in the late 1960s as its origins in the field of social psychology, but in 1980s the TRA has been expanded and revised by him and Ajzen.

It is essentially a theory that explores a person's intention or motivation towards certain behaviour. This intention is explained as a plan or likelihood that a person will act in a particular way in a particular situation. Ajzen and Fishbein (1980) stated that TRA is an attempt to explain the relationship between attitude and behaviour. To them, the intention to act in a certain way precedes actual behaviour. This intention is known as behavioural intention, which it presumed a belief and evaluation on the behaviour according to a specific or desired outcome. Behavioural intention is the key element in this theory as it is intention that determines the attitude towards behaviour and subjective norms.

Trafimow (2009) added that attitude is determined by behavioural beliefs (that is the perception on the likelihood of various consequences) and evaluations of how good or bad the consequences would be. Subjective norms are determined by the belief that a person should do what others think they should be doing, and how much they are motivated to comply with these social perceptions. Ajzen and Fishbein, (1980) stated that a person's behaviour is determined by the intention to perform that behaviour; and intention is a result of the person's attitude toward that particular behaviour.

This theory has been widely researched and many studies have tested the theory across various disciplines, including studying technology innovation adoption, consuming genetically engineering foods and dieting (Odoyo et.al. 2016; Hoffman et al. 1999). Trafimow (2009) observed that, in TRA, pivotal to behaviour is the behavioural intention which means "what one intends to do or not to do". This intention is determined by attitude namely "one's evaluation of the behaviour" and subjective norms referring to one's evaluation of what others think as important with regards to what one should do.

TRA involves three main constructs; (i) behavioural intention, (ii) attitude, and (iii) subjective norms. To start with, TRA can be used to conceptualise the behavioural pattern among the decision makers in the private sectors with regard to their involvement and participation in PPP toll expressway projects. TRA can explain whether this decision makers' behaviour is driven by behavioural intentions which explain intention as a function of an attitude and the subjective norms surrounding the performance of the actual behaviour. Figure 2.3 shows the fundamental construct of the TRA.



Source: Ajzen and Fishbein (1980)

Figure 2.3: Theory of Reasoned Action (TRA)

2.7.3 Theory of Self-Efficacy (TSE)

Originally, the theory of self-efficacy (TSE) derived from social cognitive theory (SCT) and has been proposed by Bandura in 1977. According to Bandura (1995) SCT is a belief in one's abilities to perform, organise and conduct a course of action. It is what an individual or organisation believes on the ability to accomplish under a given set of circumstances (Snyder and Lopez, 2007). While Lunenburg, (2011) suggested that TSE is a task-specific version of self-esteem towards motivation and behaviour which are strongly influences on the action taken. Van and Shortridge (2002) stated that in self-efficacy theory the engagement in activities only happen while they have high self-efficacy and less likely to engage in those they do not.

Basically, it says that a person's behaviour reflects their initial beliefs, and thus explains that self-efficacy functions as a self-fulfilling prophecy (Gecas, 2004). Self-efficacy plays a role in influencing a person's ability to learn, their motivation and their performance, as he or she will usually only try to learn and undertake those task that they believe on their capability at (Lunenburg, 2011). In TSE, the performance and motivation also are in part determined by how effective people believe they can be (Bandura, 1982; as cited in Redmond, 2010). Bandura (1995) outlined four elements of information that judging on the efficacy:

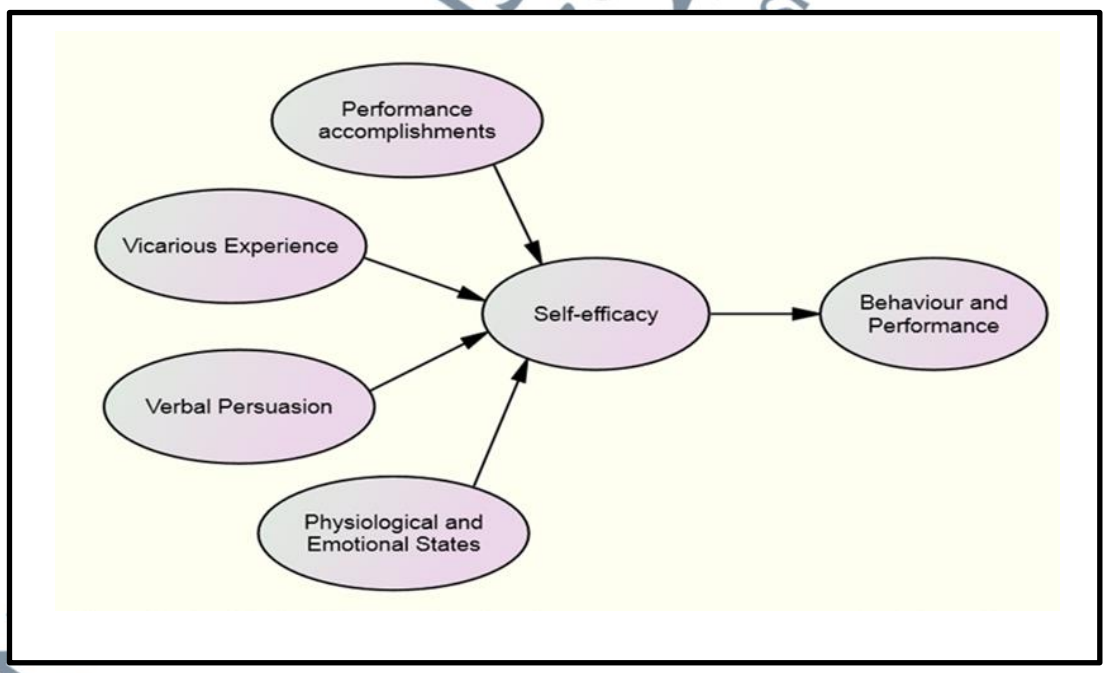
i. performance outcomes (performance accomplishments) – both positives and negatives on performance experiences reflect on the confidence level of individuals to perform similarly associated task;

ii. vicarious experiences – observed and learning through other people's performances;

iii. verbal persuasion - the persuasion derived through verbal encouragement or discouragement pertaining performance and ability; and

iv. physiological feedback (emotional arousal) - sensational experiences and how they perceive this emotional arousa

All these elements allow the person to develop a belief on the ability to perform in accomplishing the specific tasks. Williams and Williams (2010) connotes that by having high level of self-efficacy, the approachable of difficult tasks as challenges to master rather than as threats to be avoided. Figure 2.4 shows SET framework as outlined by Bandura (1995).



Sources: Bandura (1995)

Figure 2.4: Bandura's Self-Eficacy Elements

Those with high self-efficacy has high confidence in performing an action. It is a very important element in encouraging a person to believe in their ability to achieve certain objectives or expected results (Rahmi et al., 2014). In general, it is a person's belief on their own ability to manage and navigate the various life situations. In this research, the concept of self-efficacy is explained in the context of decision makers' beliefs in their ability to perform certain acts, perceived to be the ability to manage and control the risks and challenges related to the project

2.7.4 Theory of Planned Behaviour (TPB)

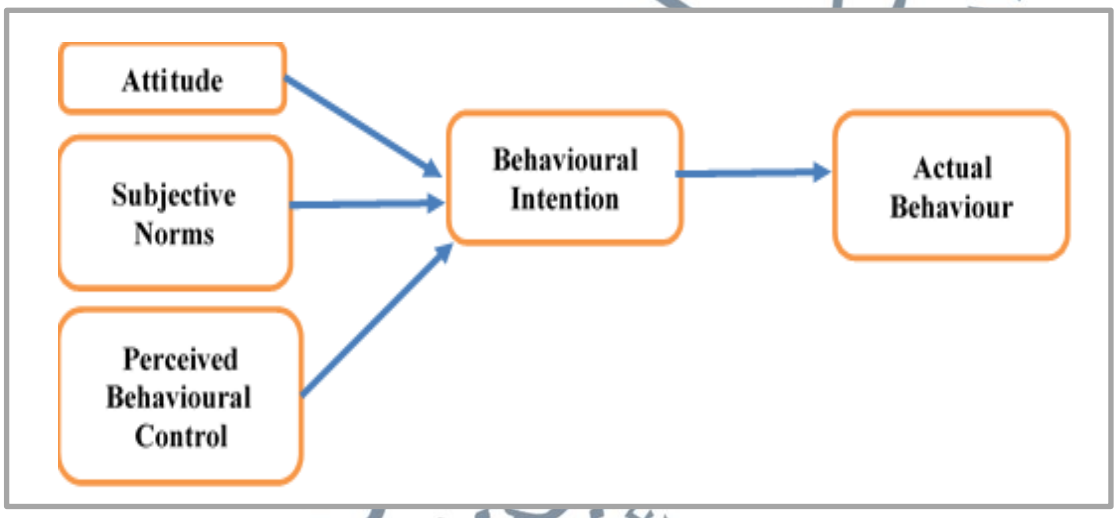
In 1985, Icek Ajzen proposed theory of planned behaviour (TPB) through his article "From intentions to actions: A theory of planned behaviour". TPB originates from the TRA, and further discusses the details of the determinants that influence a person's decision to perform a particular act or behaviour (Ajzen, 1991). In addition to the attitudes and subjective norms that derived from TRA, TPB adds the concept of perceived behavioural control which originates from Bandura's self-efficacy theory. In TPB, a behaviour is derived from the intentions to perform a particular behaviour, and this intention is shaped by several factors which also known as predictors. Here, three main predictors are:

(i) attitude towards the behaviour (i.e., the extent based on a favourable or unfavourable evaluation to undertake the behaviour);

(ii) subjective norm (i.e., the perception on the particular behaviour, which can be affected by the perceptions of other people seen as relevant); and

(iii) perceived behavioural control (i.e., perception on one's own ability to successfully perform a particular behaviour)

Ajzen (2012) introduced TPB derived from these three factors – attitude towards the behaviour, subjective norms, and perceived behavioural control – together shape the individual's behavioural intentions and consequently affect actual behaviour. The TPB framework illustrated in Figure 2.5, shows the performance of actual behaviour as directly affected by the behavioural intention, while behavioural intention is directly affected by attitude, subjective norms and perceived behavioural control.



Source: Ajzen (2012)

Figure 2.5: Theory of Planned Behaviour

In terms of relationship, a more positive attitude, will receive more support from relevant parties, resulting in higher perceived control of the respective behaviour. In this case, the possibility that the individual behavioural intention has a corresponding influence on its actual behaviour (Ajzen; 2020). However, in the human behaviour studies, TPB has been criticized for ignoring emotional determinants of behaviour (Conner & Armitage, 1998; Gibbons et al. 1998). Ajzen's (1991) theory

excludes emotional variables such as threat, fear, anxiety, and mood and assumes all behaviour are rational even though humans do not always act based on rational thinking. Thus, from the critisim of not take into consideration of emotional elements and focus solely on rationalisation of thinking, the TPB has been explored in conducting research related to both, organisational behavioural and human decision process (Zhang, Y; 2018).

Despite the fact that TPB was originally developed for the study of human behaviour, many studies have used it to conduct research on organisational behaviour. Aibinu and Al-Lawati (2010) applied TPB as a theoretical framework in identifying the key factors determined the willingness of construction organisations to participate in e-bidding. Koropp et al. (2014) used TPB to examine financial choices in family firms. Xian et al. (2018) employed TPB to study the formation of inter-organisational relational behaviours in megaprojects, and Cheng (2016) applied TPB framework to predict the intentions of owners in adopting contract partners.

Studies have shown that TPB has been applied successfully in many research fields in the contexts of organisational such as development of green hotel choice (Han et al., 2010), online business (George, 2004) and bidding behaviour of contractors' companies in PPP projects (Tang, 2016). In addition, Yang et al (2020) applied TPB to examine the influence and relative importance among critical factors for the intention and behaviour of the private sector towards participation in Chinese healthcare market through PPP; Sultana (2017) used TPB in the study of the influence of environmental, social and governance on the investment decisions in Bangladesh; TPB also has been applied to look the factors influence of local communities towards the environmental impacts of mining in China (Yang X., 2018). Also, Bajada (2018)

applied TPB model and the capability, opportunity, motivation and behaviour (COMB) model in looking the dynamics between behaviour and policy in a bus reform, using Malta as a case study.

Zheng X., et al (2018) applied TPB to examine the antecedents and consequences of relational behaviour of participating organizations in megaprojects in China; Rahayu (2015) adopted TPB model for the empirical study of influencing factors of Small Medium Enterprises (SMEs) implementing E-commerce in Indonesia; and in developing an understanding of the Green Building (GB) concept and its implementation process in Ghana, both the innovation diffusion theory and theory of planned behaviour have been applied (Anzagira, 2019). In addition, Zheng et al (2018) applied TPB as a framework to evaluate the willingness of private capital to invest in normal PPP projects and analyse the connection between the private sector and PPP performance.

Several researchers have made modifications to the classical TPB model in order to suit their respective research. Wu et al., (2016) modified the TPB model to investigate the behaviour of contractors in construction waste management by including three additional latent variables – governmental supervision, economic viability, and project constraints.

Song et.al, (2016) added a moderating variable called demographic characteristics in the TPB model to study the relationship between tourists' intentions and their behaviour towards final choice of destination. Majid (2018) studied the impact of entrepreneurial motivation and knowledge towards entrepreneurial intention, and added religious belief (Islamic faith) as moderating variable.

This research aims to investigate the factors influencing on the behavioural of the decision makers in the private sector to get involve in PPP toll expressway projects. Thus, it falls within the radius of the TPB model and the TPB framework which integrate with trust as an element of SET have been adopted and adapted to address the research problem of this study

2.8 Theoretical Framework

The framework has been drawn to study on the social behaviour and relationship towards identifying the influencing factors of decision makers' behavioural that derived from the social interaction in the contexts of PPP and provide a psychological account of how these factors determine actual behaviour (involvement).

This is aligned with study theories such as Social Exchange Theory (SET) and Theory Planned Behaviour (TPB). The element in the critical success factors (CSFs) that have been identified earlier act as an additional variable in the theoretical framework. In addition, SET to explain on the intensify effect of trust in the social behaviour contexts particularly in partnership.

Thus, in this study the theoretical framework is an integration of Critical Success Factors (CSFs), Social Exchange Theory (SET) and Theory of Planned Behaviour (TPB) towards the involvement behavioural in PPP. Figure 2.6 below show on the integration of CSFs, SET and TPB towards the involvement behavioural in PPP.

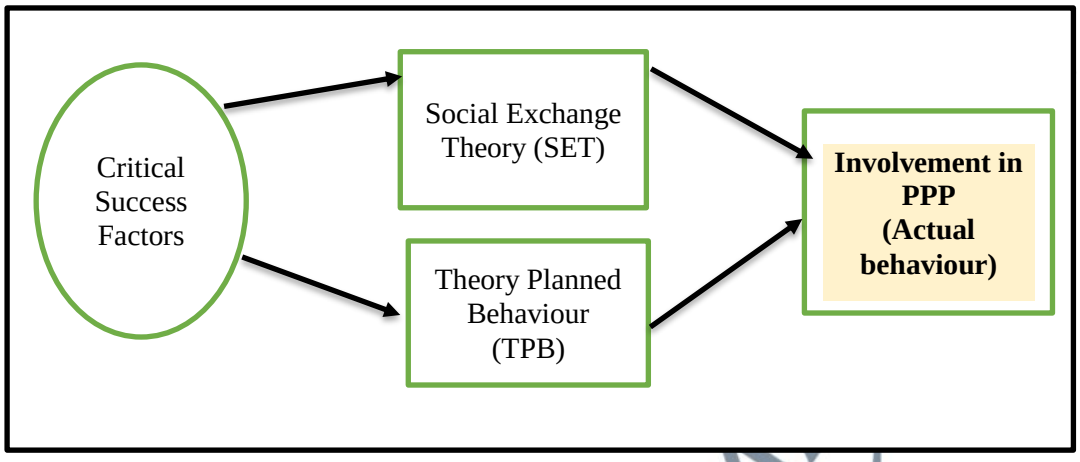


Figure 2.6: Theoretical Framework

2.9 Conceptual Framework

Taking a holistic approach, the conceptual framework of this study has been designed through the underpinning theories of SET and TPB, which aims to identify the influencing factors that could drive or motivate the decision makers in the private sector to participate or get involve in PPP toll expressway projects. In line with the objective of the study, based on attitude and behaviour theory, the TPB model is applied as the theoretical model, and provides the main structure for the conceptual framework of this study. The innovation of this study - the additional of contextual constructs (i.e., governmental influence and project viability) and a moderator (i.e trust) which has been introduced into this framework. The conceptual framework aims to examine and investigate the effect of all variables towards behavioural intention of the decision makers in the private sectors which finally performing the actual behaviour (see Figure 2.7). The study also evaluates the moderating effect of trust to understand the behavioural intention of the decision makers towards their involvement (actual behaviour) in PPP toll expressway projects in Malaysia.

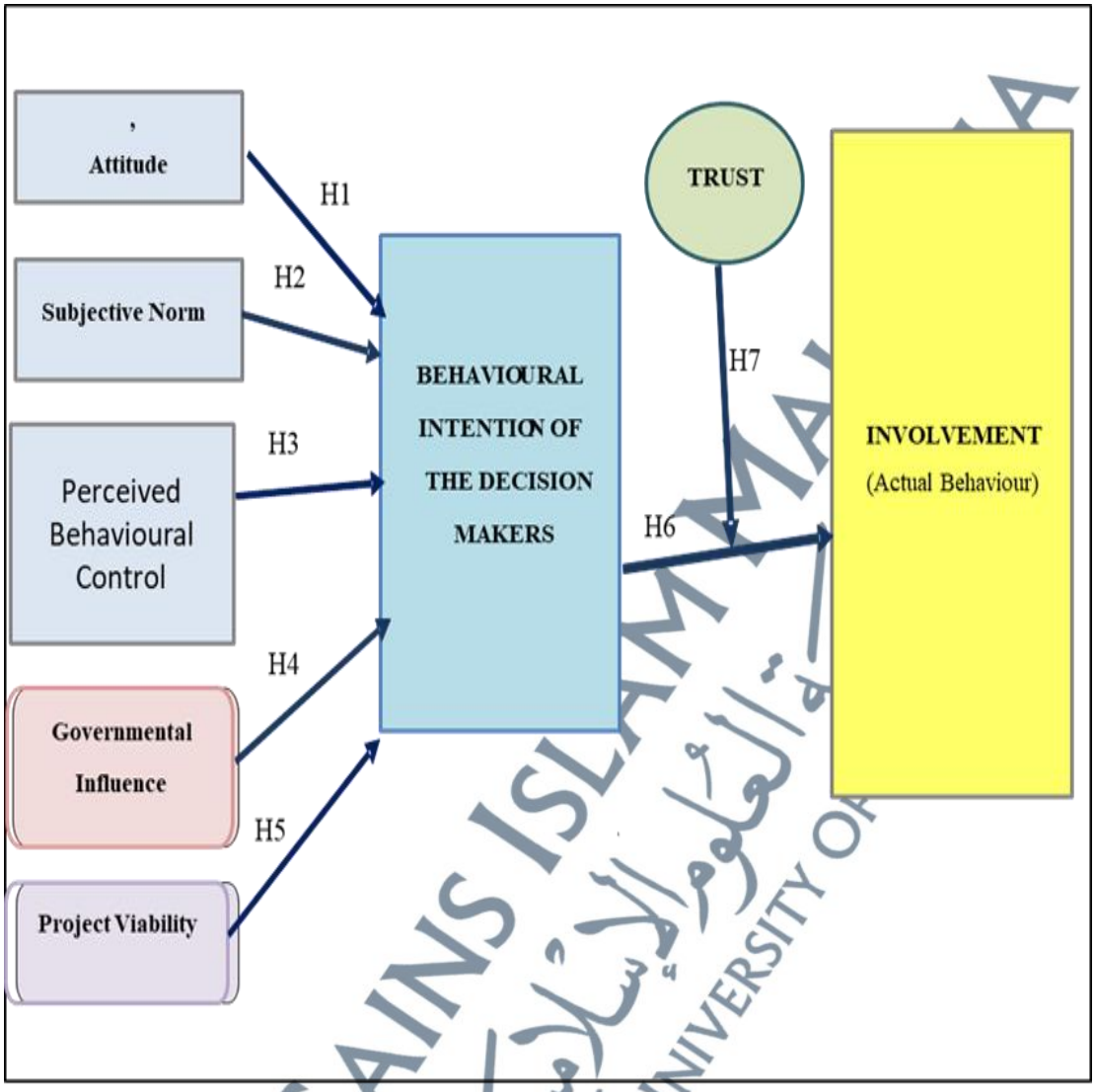


Figure 2.7: Conceptual Research Framework

2.10 Conclusion

The chapter gives a comprehensive literature review and explored, explained as well highlighted the definition, concept and origins of PPP. In addition, PPP practices in worldwide and in Malaysia particularly, had also been reviewed. An in-depth review discussed the involvement in PPP toll expressway and the conceptual behaviour intention of the decision maker in the private sector.

Subsequently, continue to explain the independent variables of the study that derived from Ajzen's TPB model and identified elements of CSFs in PPP based on systematic literature review exercise.

This study consists of five (5) independent variables with trust as a moderator variable. The five (5) independent variables are: (i) attitude; (ii) subjective norms; (iii) perceived behavioural control; (iv) governmental influence; and (iv) project viability. Finally. this chapter illustrates a general overview of the four (4) selected theories namely the Social Exchange Theory (SET), Theory of Reasoned Action (TRA), the Self-Efficacy Theory (as an element expansion of TRA) and the application of theoretical structured model under the Theory of Planned Behaviour (TPB) – as the basis of the study's conceptual framework.