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# Critical success factors for public private partnership in the UAE: Impact of Perception on success of PPP projects

# عوامل النجاح الحاسمة للشراكة بين القطاعين العام والخاص في دولة الإمارات العربية المتحدة: تأثير الإدراك على نجاح مشاريع الشراكة بين القطاعين العام والخاص


**by**

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## Abstract

The new procurement method of PPP came to replace the traditional procurement, especially for infrastructure and big projects, as it is the best solution for better quality, cost effectiveness, faster outcome and risk sharing. In UAE, the PPP concept is still new, although some projects were implemented using PPP, but still need more support to evolve and expand more and more in the UAE. Newly, the UAE came to increase and apply the PPP projects into infrastructure, waste management, services and educational fields.

The main aim of this study is to know the effect of PPP perception on the success of the PPP project in general, and the effect on groups of critical success factors. The survey results, which were collected from project managers who are working in the UAE, and analyzed using SPSS, show a positive relationship between PPP perception and critical success factors in general, and with Favorable economic condition, Stable Political and social environment and Project implementability. This study also shows variables, which Perception consist of, which are (Guidance and training, Experience and knowledge, Skills, Communication and Collaboration and Attitude)

**Keywords:** PPPs , Critical Success Factors, PPP in UAE, Perception, Project managers

# الملخص

ان طريقة الشراء الجديدة المتعلقة بالشراكة بين القطاعين العام والخاص تأتي لتحل محل طريقة الشراء التقليدية وخاصة فيما يتعلق بمشاريع البنية التحتية والمشاريع الكبيرة، حيث أنها أفضل الحلول لتحسين الجودة والفعالية لتنفيذ المشاريع من حيث التكلفة وسرعة التنفيذ وتقاسم المخاطر. في دولة الإمارات العربية المتحدة مفهوم الشراكة بين القطاعين العام والخاص لا يزال جديدا على الرغم من أن بعض المشاريع تم تنفيذها باستخدام الشراكة بين القطاعين ،ولكن لا يزال هناك حاجة إلى مزيد من الدعم لتطوير وتوسيع هذا النموذج أكثر وأكثر على مستوى الدولة. وسعت دولة الإمارات العربية المتحدة حديثا لزيادة تطبيق مشاريع الشراكة بين القطاعين العام والخاص في البنية التحتية وإدارة النفايات والخدمات والتعليم.

ان الهدف الرئيسي من هذه الدراسة هو معرفة تأثير تصور الشراكة بين القطاعين العام والخاص على نجاح مشاريع الشراكة بين القطاعين العام والخاص، وكذلك الاثر على مجموعات عوامل النجاح الحاسمة. من خلال نتائج المسح التي تم جمعها من مديري المشاريع الذين يعملون في دولة الإمارات العربية المتحدة وتحليلها باستخدام نظام التحليل الاحصائي ,والتي تظهر وجود علاقة إيجابية بين تصور الشراكة بين القطاعين العام والخاص وعوامل النجاح الحاسمة بشكل عام، والظروف الاقتصادية المواتية، والبيئة السياسية والاجتماعية المستقرة وقابلية تنفيذ المشاريع. كما أظهرت هذه الدراسة المتغيرات التي يتكون منها الإدراك و هي الإرشاد والتدريب، والخبرة والمعرفة ،والمهارات ،والاتصال والتعاون ، وطريقة التعامل مع المواقف.

**كلمات مفتاحية** : عوامل النجاح الحرجة، الشراكة بين القطاع العام والخاص في الامارات ،الادراك، مشاريع.

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# 1. Introduction

Partnership between the public and private sectors gets a great attention by governments, communities and research centers around the world. Recently known as Public Private Partnership ( PPPs ), after it became clear that the economic and social development process depends on resources from public sector , private sector and society, including all types of resources -financial , human , knowledge , etc.- to participate in formed organization responsible of building and operating many types of projects. This came as a result of failure or unsuccessful projects, tackled by isolated organizations as they face many unbearable challenges, to achieve the required targets or provide the highest quality of services; countries in general are looking forward to establish organizations and regulations, and to adopt participatory organizations in which all sectors of society contribute to fund, control, manage and operate projects, for service purposes on a participating and cooperative basis, good governance, accountability in a transparent, mutual benefit, and risk sharing .

PPP perception in the local government is a major hindrance for the expansion of the UAE's practice, related to misinformation of what PPP is doing, as they are overlooking the quality, expertise, capacity of PPP more than that of its financial side. It is important to highlight the perception of the government and how it is impacting the success of PPP .

The concept of partnership between public and private sectors is found in all areas of the world: Having started in the Roman Empire on tax collectors, it went on in the starting years of the USA, establishing the congress' practice to hire pirates to fight against the British army, After that, many of the European and American countries worked with PPP model, especially in railway transportation (Forrer et al., 2010). Osei-Kyei and Chan (2015) and Al-Sharif, F. and Kaka, A. (2004 ) describe the start of PPP/ PFI in UK in 1992, and since then, projects which have been executed through PFI/PPP, have expanded incredibly in both the UK and around the world. As per Khanom (2010), PPPs started as a result of new public management; public private partnership has been established and emerged as a main tool to manage public projects and services as it is focused on service delivery rather than public services. Moreover, since those days, PPP is evolving and expanding to cover most of the public sectors, before that, during the 80s, the governments leaned towards privatization and other mechanisms, depending on removed regulations, and this

caused exhaustion to the governments' budgets. Nevertheless, PPP came to reduce the expenses of all government projects.

Nowadays, PPPs projects are getting more popularity for most countries of the world, because they are bringing higher quality, better efficiency and innovation, expertise and the capital required to start big projects, and risk sharing between all parties. This type of partnership can help many sectors and industries, including but not limited to construction, petro-chemicals, healthcare, transportation and education (Almarri, K. 2015)

Fourie, F. and Burger, P.(2000) summarize the PPPs as being a contractual agreement between the public sector and the private sector, to provide a specific public service or products, with real commitment to partnership. It aims to transfer most of the risk of PPPs projects to the private sector.

PPP projects are considered as dominant phenomena in the last decades, because of limited investment and big pressures on governmental budgets, due to the global economical crisis (Khanom 2010). Engel et al. (2013) show that big spending on PPP projects, as many other projects, were signed for infrastructure development in Europe during 2002 and 2006 with amounts reaching more than 22 Billion Euros, while in the developing countries, an increase of 28.3% has been noticed in PPPs project investments, between years 1990 and 1997.

Chang (2015) PPPs have gotten broad scholarly consideration from many social sciences -e.g. health management, transport research, public administration, engineering/project management- and so on. "these days, the concept of PPP is becoming more and more popular for educational, expertise and political groups in the entire world countries. " (Petković et al., 2015)

### 1.1. Research problem

As PPP project is considered one of the most important ways to provide a high standard of governmental services to citizens, there was attention from both governmental and private sectors, to increase and spread these project types, in order to achieve better results at services and economic benefits. There are few successful projects in the UAE implemented using the PPP mechanism; where the government tried to capitalize on such implementation to increase the awareness of PPP mechanism for all its entities. Such initiatives, in Dubai, where supplemented by issuing the 'Guide to Public Private Partnerships in Dubai' by the Department of

Finance of Dubai government, to help induce more understanding of PPP, and lead it to success (Department of Finance, 2016). Nevertheless, there is no statistical evidence or any form of literature that proves these steps will ever help or hinder the success of PPP. (Department of Finance 2015).

### 1.2. Research questions

Four main questions will be covered in this study. Those aforementioned questions may be put as so:

- What is the effect of PPP perception level on the critical success factors of PPP project success in UAE?
- Is there any relationship between PPP perceptions and PPP CSF groups and constructs?
- What are the critical success factors of the PPP projects in UAE?
- What are the PPP perception factors in UAE?

### 1.3. Aim

This study aims to establishing a relationship between PPP perception and PPP CSF. Also, this study will attempt to establish the relationship between PPP perception and group of CSF and constructs as a way to improve the success of PPP.

### 1.4. Objectives

The objectives of this study are:

1 Investigate the PPP concept and its implementation in the UAE.

2 Establish the critical success factors for PPP projects in the UAE.

3 Establish the relationship between PPP perceptions and PPP CSF groups and constructs.

4 Establish the impact of UAE project managers perception of PPP on the critical success factors and its constructs.

### 1.5. The importance of this research

This research is focused on PPP projects in the UAE, as there are limited researches and studies focusing on UAE. PPP projects are booming through the last decade in

UAE. Therefore, this study will try to establish the importance of acknowledging the effect of PPP perception on the success of PPP projects.
In addition to providing a chance for better understanding the nature of PPP projects in the UAE, this study will investigate the nature of the relationship between PPP perception and the PPP critical success factors, where a useful feedback will be elicited from project managers with local experience, who will be sampled in this study.

### 1.6. Research limitations

This research is limited to studying the relationship between PPP Perception and PPP CSF and some of CSF groups. Therefore, not all CSF groups were tested in this research. Also, this study is limited to the context of the UAE only; hence, it will contribute more if it is to cover the entire gulf countries.
Furthermore, this study will discuss the top 3 ranked variables in each construct only, future studies can extend this work further.

### 1.7. Research Methodology

The methodology developed for this research is as follows:

1 Literature review to have a better understanding about the PPP in general, the concept of Partnership between public and private sectors, the requirements to have successful PPP, reasons behind PPPs, benefits and characteristics of PPPs, risks of PPPs, difficulties facing PPPs, success factors of PPPs and PPP perception.

2 Questionnaire survey to get the participants' opinions about PPP perception and its effects on PPP project success.

## 2. Literature review

Public-private partnership is considered as a contractual agreement between two parties; one of them is a governmental entity, whilst the other one is a private entity. In this agreement, both parties share responsibilities and resources mutually, to achieve public service or public facility, and be available for the society. Moreover, project risks and benefits are shared between them (Mouraviev et al., 2012; NCPPP, 2016). It is seen from the definition that PPPs are a modern concept with multiple forms, that are gaining increasing importance. Also, PPPs are linked to several dimensions, including administrative, organizational, cooperative, economic, social and legal dimensions.

The main characteristics of PPPs are the long term engagement between private sector companies and public sector organizations, with the management of projects for all phases including design, plan, finance, build, operation and management, to provide goods or services for the public (Petković et al., 2015).

Nowadays, in very dynamic countries, public organizations are facing many changes in internal or external environment and situations. These changes are leading to an additional pressure on the aforementioned countries, to make necessary steps to cope with these challenges; so it is redeemed essential for organizations to provide a competitive advantage, and to stay aligned with dynamic circumstances. Due to limited resources (time, budget, human), public organizations tend to make a smart approach to share the risk, reduce the budget, and empower the country's economy.

Akinyemi, et al. (2009) quote the definition of partnership from World Bank report 1989 as "a collaborative relationship between entities to work together toward shared objectives through mutually agreed division of labour" .

In PPPs, public and private sectors are completing each other, and it is awarding many projects from the government entity to the private one. On the opposite side, governmental entity roles changed to manage rules and regulations, which ensures the availability of services or facilities for citizen in a secure, professional manner.

On the other hand, private companies will manage, finance, execute and/or operate the project (Jamali 2004).

Forrer et al. (2010) explain PPP as being a continuous agreement between government and private sector institutes, private sector sharing decision-making,

products and services, which are provided in a traditional way to public users. Private sector share the risk with the government, as there are three characteristics for PPP: First, is the obligation to be a long-term contract. Second, to let the private sector help in decision-making, as this is considered to be the best way to provide services or products that were only provided by the public sector once. Last, are the negotiations and risk sharing between private and public sectors, instead of allowing the government to take the entire risk.

(PPPs) are particular sorts of co-proprietorship and/or co-operation between government and private sector companies, which are established to share the financial benefits and the risks between parties (Weiermair et al., 2008). PPPs can be assessed from government sectors based on the quality of life presented by the project, and from the private sector's view. PPPs are assessed based on the return of investment and the profit that can be made from the project. But this is not enough, as the ability to manage the project, in addition to effectiveness of organization, are taken into consideration too (Grossman, S.A. 2012).

**2.1. Reasons behind PPPs benefits and characteristics**

The main reason for having PPP, is to avoid the big expenditure on public projects, avoid delays on governmental purchasing procedures, and distribute the risk between all parties (Sarmento 2009).

Weiermair et al. (2008) stated that the main reasons of applying PPPs are to get benefits from enhancing the competitive environment, avoid limiting government's budgets, get benefits of private sector's experiences, improve project efficiency and better the services levels, as well as cut the management cost and minimize the operations cost.

Alfen, H.W. (2010) summarizes in his study the main characteristics that distinguish PPPs project from other traditional projects, as risk sharing and delegation to all parties, focusing on innovation to achieve specific project goals and support that by reward programs, using the private sector's experiences and funding, alongside a very long duration of partnership with all parties' commitment , and different project life cycle approaches .

Colverson, S. and Perera, O. (2012) make a comparison between the benefits and

disadvantages of PPPs; the benefits are noted as being better quality of spending, and better reward, by reducing the costs and increasing the output values, the speed in project execution, as private sectors are more flexible and dynamic than the public sector. This yields to a shorter execution time. Risk sharing between all parties comes handy too, and most of it is handled by the party who can handle it best, depending on its experience or cost. More investment are required in cities infrastructure projects, as those enable the government to execute more projects, and improve the infrastructure and the provided services, as the public sector tends to focus on regulations and political matters, while the private sector focuses on technical matters like design, building and operations.

On the other hand, there are disadvantages for PPPs; one of which is the higher cost of running the services, compared to them being ran by the government alone. Less competition over long periods, as PPPs award the selected company to be the only company to handle the project for very long period. The very complicated procedure to chose the awarded company and long tendering processes, as well as the absence of expertise in the government's entity as depending on outsources or private sector consultants, will lead to a high number of expert government employees leaving their organizations , being non-flexible and irresponsive to dynamic changes that can happen through the years, as a long term contract should be continuous. This might not be a much useful service or facility after many years, as delays in projects or stopping could happen, due to complicated negotiations and problem solving matters between all parties, in case a any conflict occurrs. Higher processes for end users are an issue too, as the private sector tend to gain profit from PPPs, thus increasing the prices for the provided services, compared to the same services if the government is providing it directly without PPPs.

PPPs are considered less accountable too, as the private sector companies are not providing information about PPPs, and are keeping them as commercial secrets. To sum it up, there are many benefits from PPPs, but there are many disadvantages too. Zhang, X., (2005) asserts that there are average savings for PPP for road projects in the UK, amounting around 15%, while they reached 60% in National Insurance projects. For IT projects, they're around 40%. On the other side, he shows that there was some lowliness in project's progress, and it took much more time than the other projects.

Governments focus on PPP after global economic crunches, as it's thought to be the only solution to build public infrastructure projects with effective costs, and to reduce the impact of global economic crunches on the country's economic status. The benefits of using PPP is to provide an effective way of delivering "value for money" public infrastructure, also combined with the advantages of competitive tendering, flexible negotiations and risk allocation between parties (Osei-Kyei and Chan 2015). Abdel Aziz (2007) explains in his study of PPP for infrastructure development that the PPP came to solve and overcome funding and financing problems.

### 2.2. Risks and difficulties facing PPPs

Although PPP is a useful relationship, it faces many challenges. Those can be political, legal, financial or social. Based on Chan et al. (2008), they argue in their study of PPP in Honk Kong, that there are six types of challenges facing PPP. Those challenges are cited as following: Wrong risk handling and arrangement between public and private sectors; private companies shutdown or collapse due to any reason; high project budgets and long execution periods; political and social issues against project vision and execution; and missing of a legal framework to secure the project, and inappropriate financial market. Mouraviev et al. (2012) assert that there are many underperformances for PPPs, which are usually costing the public sector more than providing services directly by the government, and in case of project failure the public sector will be the party baring the bigger losses regarding project costs, stopping services, diminishing general productivity and viability of PPPs due to conflicts between parties, dedication issues, non-appearance of techniques to dissect improvement chances and threats, an absence of specific goals, insufficient control and assessment components, and contract modifications and challenges in working connections.

Nhat et al. (2014) explain the main risks that face PPP project as being:

1. Incorrect decisions taken by public sector.
2. Government bureaucracy and difficulty to get the required approvals.
3. Economic inflation
4. Fraud and bribery.

Also, the results show how to distribute the risks, as the public sector is willing to handle all risks related to legal and political issues, like providing the funds based on promised due dates, the legal framework and the policies and regulations, and get the

required approvals. On the other hand, the private sector is willing to handle risks related to building and operating projects; so the general results show that the private sector is not likely able to handle all the risks alone, as they should be divided between private and public sectors, based on their specialty and power they have to handle risks.

Abdul-Aziz, A. (2001) demonstrate the national sewerage project challenges, as it is awarded to one private company, but after seven years, the government purchased the project once again. He also summarized the learned lessons of this experience, being that there should be a clear and transparent way in the awarded company selection, and paying consideration to the consumers' needs and service charges they should pay. Also, fair charges should be applied without a hurry to make quick profits.
A broke macroeconomic situation will hold back the success of a PPP project, whilst an excellent macroeconomic situation will achieve improved results. Furthermore, increasing the number of private investors in specific PPPs might lead to a poor outcome, and increase in the failure rate, as it will be more difficult to agree and work efficiently. In addition, when an investor owns larger shares of a project company, he will gain greater incentives to become more involved, and secure a better outcome. On the other hand, lesser shares will keep investors away from the project, as they will not focus on the project's outcome as well. In addition, having multiple lenders ought to put more pressure of both government and private investors, for more interest rate regulations to be followed, which usually lead to an increase in project failure. One of the most critical issues that might face PPPs projects, is mainly located in some developing countries, where less investors are interested in participating. Even when there are local investors looking to participate, the selection criteria will be vastly based on bribe or political relations with companies, and not the most competitive company that can manage, execute and operate the project in the best way. This also increases the failure rate of the project (Galilea, A. and Medda, F. 2009).
In Osei-Kyei and Chan (2015) research, they summarize the main issues and drawbacks of PPP as being costly transactions, lengthy procurement procedures, inappropriate skills, poor financial markets, partial risk transfer and higher fees for end users.

Administration (FHWA) report, which came out as a result of studying seven cities, explain the major six issues that hinder implementing PPP projects in a successful way, which are:

1 No committed source of financing to help the PPP project to succeed.
2 The resistance of management and employees which are working in the transportation sector.
3 Social contrasts and variations between private and public sectors' interests.
4 Governmental bureaucratic procedures.
5 Lack of proper understanding and perception of the way on how to implement and develop PPP infrastructure projects specifically, and PPP projects in general.
6 Lack of authority and regulations that manage PPPs.

### 2.3. Success factors of PPPs

Regarding the Critical success factors, they're defined as a limited number of variables required for guaranteeing and ensuring the success of business, and the higher performance of organizations (Ganisen et al., 2015). Wachira et al. (2015) summarize the CSF as being a group of factors, characteristics, conditions or variables that supervisors believe they are essential for the achievement of success. Whenever they are maintained and managed properly, they will impact the organization's success. López, R.R. and Morales, S.N. (2011) characterize CSF as the arrangement of activities constituting a mix of resources or inputs delivering the expansion of benefits. Leidecker, J. & Bruno, A. (1984) explain the CSF as "those characteristics, conditions or variables that, when properly sustained, maintained, or managed, can have a significant impact on the success of a firm competing in particular industry". While Pinto, J.K. and Slevin, D.P. (1987) and Osei-Kyei and Chan (2015) explain it as being a group of factors that if managed properly, will increase the chances of the project to succeed.

As Mullin (2002) explains the main characteristics of success of PPPs, he then compares it with the private sector's viewpoint and public sector's viewpoint. In general, there are five factors considered as essential to PPPs success, which are:

1 The acceptance and support of the public sector for PPP concept.

2 SMART objectives (Specific, Measurable, Achievable, Relevant and Time bound).
3 Clearly specified risk, responsibilities and benefits.
4 Positive involvement between all parties in PPP.
5 Acceptable responsibility and openness with general society.

On one hand, private sector's viewpoint for successful PPPs came as: powerful and very well structured private entity, involvement and participation for top management and executives of the private entity, clear vision and mission for PPP and specific scope and measurable objectives, to be responsive and supportive for government entity, and to have excellent communications with others. On the other hand, public sector's viewpoint came different than private sector's, as the characteristics came as: dynamic involvement of governmental and political management, government entity to be frequently monitoring PPP and evaluating the performance, seeking help by consultants and experts to agree on a detailed plan, communicate with all parties who affect or are affected by PPP, and choosing the right firm to have long-term partnership with, disregarding the price differences.
(Cheung et al. 2012) explain that studying the critical success factors is very important to implement PPPs for a new government, who is trying to tackle this approach in their projects; this is to minimize the risk and insure project success.
Almarri, K. (2015) explains the importance of government support to prepare the favourable climate to PPPs, which include legal, governmental, technical and administrative support through project phases completion.
Olatunji et al. (2016) describe seven essential conditions and characteristics that define PPP:

1 Arrangement between the public and private parties
2 Risk sharing between contracting parties.
3 Supply and provision of services for public benefits by private partners.
4 Standards and high quality of both services and performance.
5 Investment and management of public assets by private partners.
6 The link between payment and performance.
7 Time commitment and honoring deadlines for the agreed period of the project.

As per Gruneberg, S. (2013), the critical success factors are listed into three categories: "(1) execution and integration, (2) communication and understanding, and (3) commitment and involvement of top management".

In their study of different construction projects, Chua et al.(1999) assert that there are four main success factors and categories and groups, which are noticeable quality of the project, the agreement between PPP parties, project stakeholders, and project interactive process. Besides, they mention that there are verities in critical success factors between one project and another, and many success-related factors or sub-factors are summarized in Table 1:

**Table 1: Main success factors and Success-related factors (Chua et al., 1999)**

| Project aspect (1) | Success-related factor (2) |
|---|---|
| Project characteristics | (1) Politcal risks; (2) economic risks; (3) impact on public; (4) technical approval authorities; (5) adequacy of funding; (6) site limitation and location; (7) constructability; (8) pioneering status; (9) project size |
| Contractual arrangements | (10) Realistic obligations/clear objectives; (11) risk identification and allocation; (12) adequacy of plans and specifications; (13) formal dispute resolution process; (14) motivation/incentives |
| Project participants | (15) PM competency; (16) PM authority; (17) PM commitment and involvement; (18) capability of client key personnel; (19) competency of client proposed team; (20) client team turnover rate; (21) client top management support; (22) client track record; (23) client level of service; (24) Capability of contractor key personnel; (25) competency of contractor proposed team; (26) contractor team turnover rate; (27) contractor top management support; (28) contractor track record; (29) contractor level of service; (30) capability of consultant key personnel; (31) competency of consultant proposed team; (32) consultant team turnover rate; (33) consultant top management support; (34) consultant track record; (35) consultant level of service; (36) capability of subcontractors key personnel; (37) competency of subcontractors proposed team; (38) subcontractors team turnover rate; (39) subcontractors top management support; (40) subcontractors track record; (41) subcontractors level of service; (42) capability of suppliers key personnel; (43) competency of suppliers proposed team; (44) suppliers team turnover rate; (45) suppliers top management support; (46) suppliers track record; (47) suppliers level of service |
| Interactive Processes | (48) Formal design communication; (49) informal design communication; (50) formal construction communication; (51) informal construction communication; (52) functional plans; (53) design complete at construction start; (54) constructability program; (55) level of modularization; (56) level of automation; (57) level of skill labors required; (58) report updates; (59) budget updates; (60) schedule updates; (61) design control meetings; (62) construction control meetings; (63) site inspections; (64) work organization chart; (65) common goal; (66) motivational factor; (67) relationships |

Zhang, X. (2005) explains that many previous studies on critical success factors for PPP agree on six success factors for Build-Operate-Transfer projects, which are:

1 Management and control.
2 Project scope and vision.
3 Power of strong partners.
4 Strong technologies and solutions.
5 Excellent financial positions.
6 Guarantee for long life and project management .

Concluding for Zhang, X. study, there are five main critical success factors (CFS): Ideal venture atmosphere, financial suitability, solid concessionaire group with solid specialized quality, money related bundle, and suitable risk distribution through solid legal arrangements.

While Weiermair et al. (2008) describe the main six success factors as communication plans with all parties, strong project plan and operation, project size, cost and time, government involvement, the nature of PPPs, and selecting best value partner to execute the project.

(Cheung et al., 2012) summarizes in his study the review of seventeen references related to PPPs, and came up with seven main success factors for PPPs as following:

1 Impartial designation of risks.
2 Solid private association.
3 Wise government monitoring.
4 Straightforward and proficient procurement procedures.
5 Project financial benefits.
6 Satisfactory legitimate system and secure supporting environment.
7 Existing economic marketplace.

Each factor has one or more sub factors.

Also the factor grouping is supported by Hardcastle et al. (2005) and Bing, et al (2005), as they came up with the following grouping:

1 Effective procurement.
2 Project implementability.
3 Government guarantee.
4 Favorable economic conditions.
5 Available financial market.

While Domingues et al. (2014) group the factors as following:

1 Technical factors.
2 Financial and economic factors.
3 Social factors.
4 Political and legal.
5 Others (possible management actions).

Akintoye et al. (2006) summarize the grouping of CSF based on literature review as:

1 Effective procurement.

2 Project implementability.
3 Government guarantee.
4 Favourable economic conditions.
5 Available financial market.

Khanom, N.A., 2010 express the grouping of CSF as:

1 Distinct regulations are laid down concerning the responsibilities of the parties regarding costs/risks.
2 Project implementability.
3 Favourable economic conditions & available financial market.
4 Appropriate Risk Allocation.
5 Effective procurement.

Rahman et al. (2014) assert on having six groups of CSF as:

1 Prevailing Environment.
2 Project Participants.
3 Project Implementability.
4 Effective Procurement.
5 Sound Financial Package.
6 Government Support.

Scheffler, R.M. and Pathania, V.(2005), in their study about the healthcare field, came up with five critical success factors which are: having charismatic leadership, partners having the desire to be involved into business, managing relationships, having excellent and detailed technical knowledge, and focusing on one main target (disease).

Galilea, A. and Medda, F. (2009) highlight the focus on some new factors related to the country's past experience in specific sector using PPP, as having more experience will increase the success of the project. Also the GDP growth for the country will lead to better results and project success. Regarding political environment, autarchies countries have better chances to succeed in PPP comparing with democratic countries, as they provide better assistance and support for PPP.

Petković et al. (2015), focus on inter-organizational design as being the most important factor of success in PPP projects; they said *"because experience has shown that without strong organization, coordination, defined rules and principles, there is no successful outcome and initiatives amount to a failed attempt."* As a result, they

came up with the importance of having a Special Purpose Company (SPC) to overcome different organizational structures between all parties in public and private sectors. SPC came as a hybrid organization to do only specific PPP project with matrix structured based.

Osei-Kyei and Chan, (2015) research, which was based on a comprehensive review for all researches related to PPP between 1990 and 2013, that focuses on PPP CSF, agrees that the top five CSF are "appropriate risk allocation and sharing, strong private consortium, political support, community/public support and transparent procurement."

Almarri, K, and Abu-Hijleh, B (2017) assert in their comparative study of CFS of PPP between UAE and UK, and came up with matching the top nine factors in both countries, which are ranked in the UAE as following:

1 Commitment of public and private parties.
2 Appropriate risk allocation.
3 Committed and competent public agency.
4 Transparent procurement process.
5 Strong private consortium.
6 Competitive procurement process (specs, shortlist, etc.).
7 Political support.
8 Detailed cost/ benefits assessment.
9 Good governance,

while other factors are not showing the same ranking between UAE and UK which are:

1 Favourable legal framework .
2 Multi-benefit objectives of all stakeholders.
3 Project technical feasibility.
4 Shared authority between the public and private sector.
5 Social support.
6 Sound economic policy.
7 Government guarantees.
8 Macro-economic conditions.
9 Local financial market.

Also, these factors are supported by Hardcastle et al (2005), and Abdou, A. and Al Zarooni, S., (2011). While Rachmawati et al. (2016) listed only 16 common CSF in addition to another new two factors, which are supported by the survey he did:

1. Site availability.
2. Low-income group's ability to pay.

Also they put the factors into five groups as following:

1. Economic condition and policy.
2. Commitment and responsibility.
3. Government support.
4. Legal framework.
5. Good consortium.

In addition to that, it is important to have a well-managed relationship between all parties, decision-making by agreement of public and private sectors together, and building trust and respect between all entities, in order to have a successful PPP project (Abdou, A. and Al Zarooni, S., 2011)

**Table 2 : Critical success factors summary CSFs Summary**

| # | CSF | References | Construct | Variables | **Rank** |
|---|---|---|---|---|---|
| 1 | Commitment of public and private parties/ Communication plan | Gruneberg, S. (2013), Chua et al. (1999), Weiermair et al. (2008), Scheffler, R.M. and Pathania, V.( 2005), Petković et al. (2015), Osei-Kyei and Chan (2015), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | project implementability | 1) equal commitment to the objectives of the PPP project<br>2) trained workforce<br>Kanter, R.M. (1998), Almarri, K. (2015) | 10 |
| 2 | Appropriate risk allocation | Zhang, X. (2005), Cheung et al. (2012), Petković et al. (2015), Osei-Kyei and Chan (2015), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | Favourable economic condition | 1)proper risk analysis<br>2)Transparency of the risk allocations<br>Kanakoudis et al. (2007), Li et al. (2001) | 7 |
| 3 | Government involvement by providing guarantee / Committed and competent | Weiermair et al. (2008), Scheffler, R.M. and Pathania, | Government Control | 1) Clear plan for protecting the investment<br>2) guaranteeing the cash flows | 6 |

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|---|---|---|---|---|---|
| | public agency | V.( 2005), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | | CSF07 3) foreign exchange guarantee, Almarri, K, and Abu-Hijleh, B (2017), Zhang, X. (2005) | |
| 4 | Transparent procurement process | Cheung et al. (2012), Osei-Kyei and Chan, (2015), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005), Abdou, A. and Al Zarooni, S., 2011, Rachmawati et al. (2016). | Effective procurement | 1) Wide advertising of upcoming procurement opportunities<br>2) Public opening of bids<br>3) Pre-disclosure of all relevant information<br>Agaba, E. and Shipman, N. (2007) | 6 |
| 5 | Strong private consortium | Zhang, X. (2005), Cheung et al. (2012), Osei-Kyei and Chan (2015), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | Stable Political and social environment | 1) Effective project organization structure<br>2) Strong and capable project team<br>3) Good relationship with host government authorities<br>Zhang, X. (2005) | 7 |
| 6 | Competitive procurement process (specs, shortlist, etc.), | Weiermair et al. (2008), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011) | Effective procurement | 1) negotiating contracts for a PPP<br>2) allow sufficient time to complete the competitive procurement process<br>3) Restricted tender | 4 |

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|---|---|---|---|---|---|
| | | | | Lau, S.S., 2012, Thai, K.V. ed. (2008), Nersesian et al. (2004) | |
| 7 | Political support/ Political decision making | Cheung et al. (2012), Galilea, A. and Medda, F. (2009), Petković et al. (2015), Osei-Kyei and Chan (2015), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005), Abdou, A. and Al Zarooni, S. (2011), | stable political and social environment | 1) continues government support for entire project life cycle<br>2) Citizens are knowing why project exists, and what its operating costs<br>Harris, S. (2004), Almarri, K, and Abu-Hijleh, B (2017) | 7 |
| 8 | Detailed cost/ benefits assessment/ Economic viability | Zhang, X. (2005), Cheung et al. (2012), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005), Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | project implementability | 1) Identification of all the factors (Favourable and unFavourable)<br>2) Financial valuation of costs and benefits<br>3) Social Benefit<br>Brzozowska, K. (2007), Sachdeva, S. (2006) | 6 |
| 9 | Good governance | Cheung et al. (2012), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005), Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | stable political and social environment | 1) achieve self-reliant and sustainable development and social justice<br>2) ideal functioning of government that operates most effectively and efficiently<br>Besancon, M. (2003) | 5 |
| 10 | Favourable Macro-economic condition/ Favourable investment environment | Zhang, X. (2005), Cheung et al. (2012), Galilea, A. and Medda, | Favourable economic condition | 1) lower risk market<br>2) return on assets | 6 |

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|---|---|---|---|---|---|
| | | F. (2009), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005), Abdou, A. and Al Zarooni, S. (2011) | | 3) return on equity<br>Li et al. (2005), Mahbub et al. (2014) | |
| 11 | Project technical feasibility/ Experience and technical knowledge / the nature of PPPs/ size/time | Chua et al. (1999), Weiermair et al. (2008), Scheffler, R.M. and Pathania, V.( 2005), Galilea, A. and Medda, F. (2009), Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005), Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | project implementability | 1) Review the associated technical problems<br>2) Technical aspects satisfy all relevant regulatory requirements.<br>Bing et al. (2005) | 8 |
| 12 | managing relationships | Scheffler, R.M. and Pathania, V.( 2005), Abdou, A. and Al Zarooni, S. (2011) | project implementability | 1)Commitment of senior executives<br>2)integration of different divisions<br>3)multidisciplinary team<br>Ameyaw et al. (2017) | 2 |
| 13 | having charismatic leaderships | Scheffler, R.M. and Pathania, V.( 2005). | stable political and social environment | 1) Problem solving<br>2)Leading Others<br>3) Intellectual Inquiry<br>Lee et al. (2015) | 1 |
| 14 | Strong project plan , operation and execution | Gruneberg, S. (2013), Chua et al. (1999), Weiermair et al. | project implementability | 1) well documented and well prepared<br>2) good allocation for resources | 3 |

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|---|---|---|---|---|---|
| | | (2008) | | CSF37 3) well defined milestones<br>Strange, M (2007) | |
| 15 | Favourable legal framework | Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | Favourable economic condition | 1) the rights of private investors<br>2) the obligation of private investors<br>3) equitable treatment of all shareholders<br>Lamech, R. and Saeed, K. (2003), Gregory, H.J. and Simms, M.E. (1999) | 4 |
| 16 | Multi-benefit objectives of all stakeholders | Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | Favourable economic condition | 1) all parties agree on multi-benefit objectives<br>2)all partners must understand and respect each other's<br>Goals<br>Li et al.(2005) | 4 |
| 17 | Social support | Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011). | stable political and social environment | 1)Emotional support<br>2) Instrumental support<br>3) Informational support<br>Nguyen, M.N.K. (2013) | 3 |
| 18 | Local financial market | Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | Favourable economic condition | 1) liquidity and depth of financial markets<br>2)governmental taxation policies<br>Punurai, S. and Conover, J. (2013) | 4 |
| 19 | Shared authority between the public | Almarri, K, and Abu-Hijleh, B | project | 1) shared responsibility with established | 4 |

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|---|---|---|---|---|---|
| | and private sector. | (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | implementability | procedures<br>2) shared decision making<br>3) effective negotiations between public and private sectors<br>Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) | |
| 20 | Sound economic policy | Almarri, K, and Abu-Hijleh, B (2017), Hardcastle et al. (2005) , Abdou, A. and Al Zarooni, S. (2011), Rachmawati et al. (2016). | Favourable economic condition | 1) Real Gross Domestic Product (GDP)<br>2) The Unemployment Rate<br>3) The Stock Market<br>Tursoy et al. (2008) | 4 |

Table 2 summarizes all the critical success factors from literature review, with its ranking based on a number of papers mentioning it. Factors are grouped into constructs, to merge all related factors together, in addition to variables measuring the factors, as these variables will be used later in survey design, which will be built based upon the above table 2.

**Table 3 : CSF construct summary**

| # | CSF Construct | Construct Variable | Order / Rank |
|---|---|---|---|
| A | Government Control | Committed and competent public agency/Government involvement by providing guarantee | 1 |
| B | Effective procurement | Transparent procurement process | 1 |
| | | Competitive procurement process (specs, shortlist, etc.), | 2 |
| C | Favourable economic condition | appropriate risk allocation | 1 |
| | | Favourable Macro-economic condition/ Favourable investment environment | 2 |
| | | Favourable legal framework | 3 |
| | | Multi-benefit objectives of all stakeholders | 4 |
| | | Sound economic policy | 5 |
| | | Local financial market. | 6 |
| D | Stable Political and social environment | Strong private consortium | 1 |
| | | Political support/ Political decision making | 2 |
| | | Good governance | 3 |
| | | Social support | 4 |
| | | Having charismatic leaderships | 5 |
| E | Project implementability | Commitment of public and private parties/communication plan | 1 |
| | | Experience and technical knowledge /Project technical feasibility/the nature of PPPs/ size/time | 2 |
| | | Detailed cost/ benefits assessment/ Economic viability | 3 |
| | | Shared authority between the public and private sector. | 4 |
| | | Strong project plan, operation and execution | 5 |

| | | | |
|---|---|---|---|
| | | managing relationships | 6 |

Table 3 groups CSF into constructs, and summarizes table 2, which includes constructs (group of CSF), construct variables, and variables order based on a number of references per construct.

### 2.4. PPP perception

Ayittah et al. (2013) define the perception as being "perceptions about objects, persons, products, services, ideas, or institutions, such as the Polytechnics is influenced by… set and prior experience… and how we interpret inputs (i.e. stimuli) impinging on the sense organs to create a meaningful picture of these things (i.e. the polytechnics)."

Byca, M. (2011) asserts that as we can characterize perception as being a type of understanding of human-condition relationship, as a piece of acknowledgment and assessment handle. While Burnett et al. (1995) defines perception as being "the process by which receiving information through five senses and assigning a meaning to it". We could attempt to characterize perception as being the way towards sorting out, deciphering, and specifically extricating tactile data. The recognition prompts the expression. The expression is basic for the recognition (Pinto et al., 2011).

Akelere, D. and Gidado, K. (2003) affirm in their study of Nigerian's PPP and PFI projects, that there are different perceptions of PPP/ PFI risks, and how to deal with them between public sector, professional advisors and investors. This different perception or the perception gap between them, needs to be overcome in order to lead the PPP project to success; this can be achieved through educating and training public and private sectors' stakeholders.

Hampton et al.(2012) illustrate in their study of stakeholders, a perception and comparison between PPP and a traditional way of procurement and its effect on projects' delays and costs. They found that there were different stakeholders' perceptions related to delays of projects. But there was an agreement over that traditional procurement is better in project outcome quality and value for money, while PPP project are better in meeting schedules, projects' deadlines and agreed time

frame. Also, everybody agrees on that PPP projects are more preferred, compared to traditional projects.

One of the many reasons hindering PPP projects, is their lack of proper understanding and perception of the way on how to implement and develop PPP infrastructure projects specifically, and PPP projects in general; also, the findings of the survey analysis show that there is a need to increase awareness and understanding of PPP, in order to have a steady project which can be achieved through having a detailed guide, regulations to manage PPP, having futuristic views and strategies to support main stakeholders, addressing the required budget, time frame, solicitation process, and clarifying the responsibilities and rights for both public and private partners (Abdel Aziz 2007).

Akinyemi et al. (2009) express in their study of perception of risk in PPP projects in Nigeria, that there are different definitions of risks, which lead to wrong perception about risks' definitions and how to deal with them.

Minh et al. (2016) stress on that more involvement of the stakeholders in PPP projects, especially from public sector, lead to a better acceptance of private sector roles, to help handling more responsibilities, which are usually related to public sector. Then, local authorities play their role in coordinating between all sectors involved in a PPP project, and this is considered as informal framework, used to increase the interest of private sector in public services' projects. In general, having a good perception is essential to prepare PPP contracts, official papers, regulations, required assistance, and roles and responsibilities for all stakeholders. Missing one of the mentioned details (informal framework and guidance), will hinder the understanding and assistance of different stakeholders, especially in private sectors.

Sack, D. (2004) explains that there are four stages required to develop a successful PPP project, which are:

1 The individual participation in a formal way, based on their resources and perceptions about the future objectives, which is uncertain for them; so they start accepting the change from traditional and routine way of work, and looking to delegate and make partnership with other organizations. This is considered as an initiative process for cooperation.
2 Comprehensive cooperation, and the interaction between all stakeholders during different phases, having common trust, same issues and gaps to overcome, negotiation processes, manage ideas' variances, and agree on

decisions .This requires an independent facilitator to achieve the required target of this phase.

3 The support program of PPP project from the government, or any international organization; while these changes in regulations might be considered as challenges to PPP.

4 Time management of PPP, which is critical to its success.

And he summarizes the first stage, as being *"the individual perception of possible PPP benefits motivate actors to contact other organizations and lead to a readiness for interaction."* As missing of the stakeholders' perception of mutual benefits between public and private sectors, will inevitably lead to obstacles in PPP project success. On the other hand, he asserts that the perception of basic advantages, and the eagerness for collaboration, will lead to better solutions and creative ways to manage PPP projects.

Toan, T.N. and Ozawa, K. (2008) focus in their study on Vietnam's BOT projects, which are considered a form of PPP projects. They assert that in spite of having great opportunities to build the country's infrastructure, private sector's participation did not meet the government's expectations; they expected more projects to be built, based on BOT by the private sector. This was justified by the private sector's perception about the risky environment of Vietnam as a developing country, and unsuited regulations from the government to encourage the private sector to participate. This came as a result and reaction of the economic crisis that hit Asia in 1997 and 1998, and another crisis in Argentina in 2002 and 2003. They also describe the importance of stakeholders' perception as *"In general, stakeholders' perception on criticality of risks is influenced by many factors like their experience, involvement, capability of management and level of investment and return from project."*

1 McErlane et al. (2016) put the stakeholders' theory into three categories:

2 Assert on the firms' properties, attitude and perception towards other firms, which usually consider the organization as the centralized unit of the PPP, and their perception determine the relationship with other partners.

3 The relationship between other organizations.

4 The ethical rules and regulations for management of organizations.

The organization's perception is considered as being the most important factor that determine how relations between organizations will be formed. They also stress on

the fact that perceptions between partners in PPP projects are different, based on the sector's point of view: While the public sector is looking for better services to provide citizens with, the private sector usually focuses on making more profit from any project.

Ricks et al. (2013) stress on that the absence of authority, abilities, and attitude, was a distinguished hindrance towards PPP.

Pangeran, M.H. and Pribadi, K.S. (2010) describe the loss of PPP project based on the perception of the project's objective, which usually relates to scope, cost, quality or time; it's different between public and private sectors, based on their perceptions towards the project's goals.

There is no standards of common Key Performance Indicator across different PPP projects, as each project is considered unique; it requires that deep understanding and perception of performance, to be measured to achieve the required project's objective. One of these indicators is proper training. (AJEi, O.L.A.N.I.Y.I. and ADENIYI, O, 2012)

Ismail, S. (2012), in his research, asserts the big difference in perception of the value for money in PPP projects in Malaysia, between the private and public sectors. Depending on years of experience and numbers of participated PPP projects, he categorizes the respondents; and to overcome the difference in perceptions, he suggests that the organizations should do more training, workshops and seminars, to educate and increase awareness between the two parties.

Li et al. (2005), assert in their study of perception, on things that make PFI interesting or uninteresting to the acquisition process. Their different perception of attractive - and unattractive- factors, makes things more complicated for stakeholders' decisions, whether to participate in PFI or not. This might also affect the change of regulations and roles, that manage the PPP and PFI in a given country.

The findings of (Nhat et al., 2014), show both positive and negative attraction factors related to PPP and PFI, based on different perceptions of stakeholders. Positive factors are:

1 Risk transfer to the private sector.
2 Problem solving of public sector budget restraint.
3 Non-recourse or limited recourse to public fundings.
4 Reducing public money tied up in capital investment.
5 Capping the final service costs.

6 Improving maintainability.
7 Facilitating creative and innovative approaches.
8 Enhancing government's integrated solutions capacity.
9 Improving buildability.

While the negative factors came as following:

1 Investing a big deal of management time in contract transactions.
2 Lengthy delays in negotiations.
3 High participation costs.

Olatunji et al. (2016) explain that various standards were distinguished, to be imperative in describing the usage of PPPs at program levels, as following:

1 Using Key Performance Indicators (KPIs) to measure the performance of project execution and implementation.
2 Institutionalization of PPP methodology and contracts.
3 Straightforwardness in PPP procedures with clear guidance and terms.
4 Understanding the values provided from the project compared to the spending (Value For Money (VFM )).
5 Understanding the risk sharing between stakeholders, and the rewards suitable for the risk they will take.
6 Understanding of the private funds' purposes.
7 Existence of the PPP regulations and execution units.
8 Accessibility of PPP institutional/legitimate structure.

Gomez, C. and Gambo, M. (2016) describe the difference between public and private sectors' perception of required technical requirement, skills, results and international standards, which reduces the effective management of special purpose vehicles .Węgrzyn, J. (2016), affirm that the private and public sectors have different perceptions of PPP project success, as the private sector shows little interest in CSF. PPP usually run for very long years. This different perception should be controlled at the initial stage of contractual agreement.

Voelker et al. (2008) considers the risk evaluation, depending on perception of stakeholders, including all parties who are involved in PPP project. They find that there are high political risks. Beyene, T.T. (2014) mentions in his study of Ethiopia's PPP, that the respective perceptions of public and private sectors are convergent about how the government attracts the private sector to participate in infrastructure

development projects. He also tries to find the difference between private and public sector's perception of attractive factors, and he finds there are some differences in a few factors. But these factors are not considered top critical. He cites "Government support in providing loan", "Tax exemption or reduction" and "Prevalence of PPP specific legal framework"

Ogunsanmi, O.E., (2013) focuses in his study on KPI perception between stakeholders including owners, contractors and consultants; as these KPI can increase the performance of a PPP project for a better outcome, the study's findings show a difference in consideration of KPI on PPP projects between stakeholders.

Chung, D. and Hensher, D.A. (2015) claim that having an excellent experience in PPP projects, yields to fewer risks on project contractual between all parties. There are also different perceptions of PPP projects' risks, especially between internal and external stakeholders. Beyene, T.T. (2015) states the difference in perception for stakeholders in different countries, in both private and public sectors altogether; he summarizes Ethiopia PPP study by showing that there are three attractive factors helping and supporting PPP projects:

1 Public sector's help to get guarantees.
2 Existence of companies which are focused only on PPP projects.
3 Having a specific regulation and roles framework as guidance.

Lau, S.S. (2012) explains the increase of perception by collaboration and involvement in PPP projects, as being influential on the organization's reputation. It will increase the service receivers' positive perception of social responsibility; this opens new channels for the private sector, to find new ways for future improvement and more business opportunities. Yuan et al.(2011), describe the importance of PPP knowledge and experience; training programs and financing skills are essential to increase the understanding of PPP projects. Willems, T. (2014) states that the lack of experience and expertise in managing huge projects, make PPP a better solution, and international experiences lead to better understanding and adopting the best practices of PPP.

Ismail et al.(2011) affirm that knowledge, innovation and learning are considered among the main criteria to understand the bidders' offers and evaluate the VFM.

Islam, M.R. (2012) claims that the lack of experience and skills in PPP projects, is considered as a negative factor to implement PPP in developing countries. On the other hand, he explains the great added-value of developed countries' experience, to

assure that PPP is ready to be started and executed. Furthermore, public users and service receivers should increase awareness about how PPP projects work, and how fees should be applied in order to succeed at the project, and provide higher levels of services. Training and awareness sessions should be conducted to increase public perception toward PPP.

Chan et al. (2010) emphasize on that cultural and experimental differences between private and public sectors, lead to a different perception on PPP projects. Abdel Aziz, A.M. (2007) shows in his study of PPP perception, that there is a need of:

1 Increasing the efforts to enable regulations between public and private sectors.
2 Implementing guidance and training for PPP, especially for legal framework and institutional integration.
3 Building strategies to manage stakeholders.
4 Protecting respective intellectual properties.

Ameyaw, E.E. and Chan, A.P. (2015), summarize the top risk factors, and the lack of PPP experience came in the top ranked factors. This yields to critical problems in PPP projects and the provided services.

**Table 4 : Factors affecting PPP perception from literature review**

| Perception | References | Variables | Rank |
|---|---|---|---|
| guidance and training | Akelere, D. and Gidado, K., (2003), Abdel Aziz, (2007), Minh et al. (2016), AJEi, O.L.A.N.I.Y.I. and ADENIYI, O (2012), Ismail, S., (2012), Olatunji et al.(2016), Beyene, T.T., (2015), Yuan et al.(2011), Ismail et al. (2011), Islam, M.R., (2012), Chan et al. (2010). | 1) formal employee training<br>2) hours of training per year<br>3) Variety of training<br>Black, S.E. and Lynch, L.M. (2005) | 11 |
| experience and knowledge | Toan, T.N. and Ozawa, K., (2008), Ismail, S., (2012), Nhat et al. (2014), | 1) years of experience on PPP<br>2) familiarity of PPP aspects<br>3)number of PPP projects | 11 |

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|---|---|---|---|
| | Singaravelloo, K., (2010), Chung, D. and Hensher, D.A., (2015), Yuan et al. (2011), Willems, T., (2014), Ismail et al.(2011), Islam, M.R., (2012), Chan et al. (2010), Ameyaw, E.E. and Chan, A.P., (2015). | involved in<br>Coopers, P.W. (2005) | |
| Skills | Toan, T.N. and Ozawa, K., (2008), Gomez, C. and Gambo, M., (2016), Yuan et al. (2011), Islam, M.R., (2012). | 1) Technical related project skills<br>2) contract management Project skills<br>3)Performance management skills<br>Gomez, C. and Gambo, M. (2016) | 4 |
| Communication and Collaboration | Abdel Aziz, (2007), Minh et al. (2016), Sack, D., (2004), Lau, S.S., (2012). | 1) effectiveness of communication with the private sector<br>2) time is spent in communicating between parties<br>Cui, Q. and Lindly, J.K. (2010) | 4 |
| Stakeholders involvements | Minh et al. (2016), Toan, T.N. and Ozawa, K., (2008), Lau, S.S., (2012). | level of involvement of each of:<br>1) NGOs,<br>2)Experts,<br>3)Public authorities government agencies,<br>Boiral, O. and Heras-Saizarbitoria, I. (2015) | 3 |
| Attitude | McErlane et al. (2016), Ricks et al. (2013), Hardcastle et al. (2005) | 1) Agreement between the senior debt holders and the government<br>2) Intend to see the project through until the end of the contact | 3 |

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|---|---|---|---|
| | | 3) securitise most of our PPP projects<br>Demirag et al. (2010) | |

Table 4 summarizes the literature review of factors affecting the perception of PPP projects that comes into five factors:

1 Guidance and training, mentioned in eleven papers.
2 Experience and knowledge, mentioned in eleven papers.
3 Skills, mentioned in four papers.
4 Communication and collaboration, mentioned in four papers.
5 Attitude, mentioned in one paper only.

Black, S.E. and Lynch, L.M. (2005) summarize the questions related to training measurements that can be used in the survey as being the following:

1 Does your business have a formal employee training and development program?
2 How many hours of training per year are typically received by an experienced employee? (someone employed for more than one year)
3 Variety of training incidence measures including types of training offered (basic, workplace-related, and job skills) along with a reason(s) for training (technology, skill specificity, seniority, retention)?

While Cui, Q. and Lindly, J.K. (2010) use: "What is your states experience in PPP?", Queiroz et al. (2014) use the following questions in their survey to measure participants' experience:

1 Regarding your professional experience, for how many years have you worked (directly or indirectly) on PPP/concessions?
2 How familiar are you with the institutional and operational aspects of the PPP?

Ogunsanmi, O.E. (2013) uses the number of PPP projects involved in.

Gomez, C. and Gambo, M. (2016) group PPP projects/ SPV skills into the following groups:

1 Technical related project skills.
2 Legal and value related project skills.

3 Contract administration related project skills.
4 Conceptual and performance management related project skills.
5 Stakeholder management related project skills.

Regarding communication and collaboration, Cui, Q. and Lindly, J.K. (2010) ask about how would you rate the effectiveness of communication with the private sector, while Klijn et al. (2014) ask about the time spent in communicating between parties (contract parties as well as external parties).

Boiral, O. and Heras-Saizarbitoria, I. (2015) express the involvement of stakeholders by asking about the level of involvement of each of the NGOs, experts, public authorities, government agencies, local communities, citizen's groups, coalitions and industrial associations.

Demirag et al. (2010) use many questions to determine the attitude towards PPP risk. Some of them are:

1 Most projects would not go ahead without a direct agreement between the senior debt holders and the government.
2 When entering into a PPP project, we intend to see the project through until the end of the contact.
3 We securitized most of our PPP projects.

All these questions use "agree", "neutral" and "disagree" as suggested answers.

## 3. Conceptual framework.

While focusing in the literature review on the main components and factors, affecting and affected by PPP perception and CSF, it shows some of the factors affecting PPP perception which are demographic factors; age, gender and education, in addition to other factors, which are guidance and training, experience and knowledge, skills, communication and collaboration, and attitude. On the other hand, CSF are gathered and grouped with reference to table 2 and table 3, as five main groups are shown, and a list of CSF for each group. The main groups are:

1 Government Control, and this includes:

   a) Committed and competent public agency/Government involvement by providing guarantee.

2 Effective procurement, and this includes:

   a) Transparent procurement process.

   b) Competitive procurement process (specs, shortlist, etc.).

3 Favourable economic condition, and this includes:

   a) Appropriate risk allocation.

   b) GDP growth for the country /favourable economic condition/favourable investment environment.

   c) Favourable legal framework.

   d) Multi-benefit objectives of all stakeholders.

   e) Local financial market.

   f) Sound economic policy.

4 Stable political and social environment, and this includes:

   a) Strong private consortium.

   b) Political support/Political decision making.

   c) Good governance.

   d) Having charismatic leaderships.

   e) Social support.

5 Project implementability, and this includes:

   a) Commitment of public and private parties/communication plan.

   b) Detailed cost/ benefits assessment/ Economic viability.

   c) Experience and technical knowledge /Project technical feasibility/the nature of PPPs/ size/time.

d) Managing relationships.

e) Strong project plan, operation and execution.

f) Shared authority between the public and private sector.

**Figure 1 : Conceptual Framework General look**

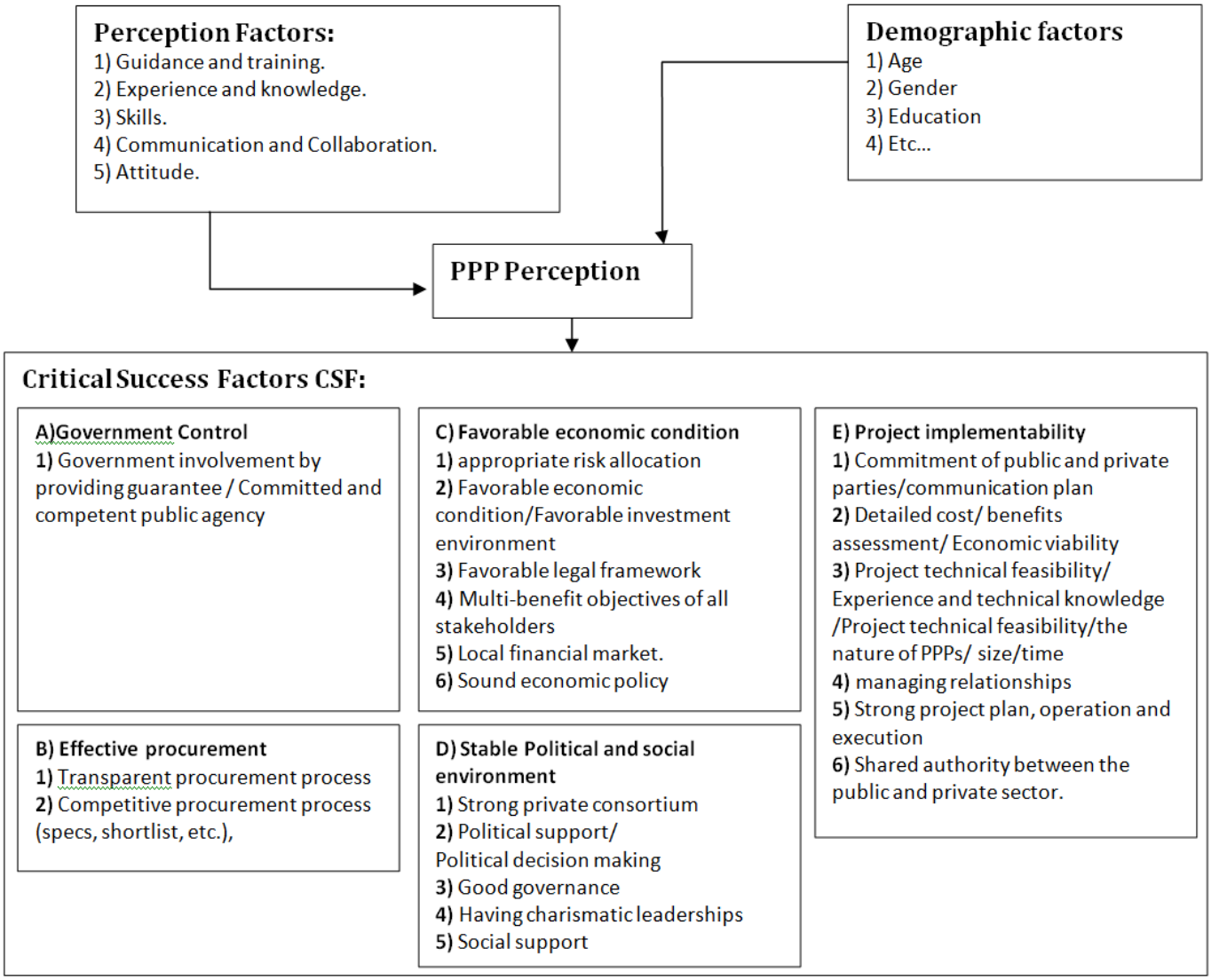


Figure 1 shows the relationship between all factors as explained above, which highlights conceptual framework at a high level. This includes global factors of perception and its five components, in addition to CSF, grouped into five constructs, and showing the components variables for each construct. Furthermore, it shows the demographic variables which will be covered by this study.

**Figure 2 : Conceptual Framework Hypothesis**

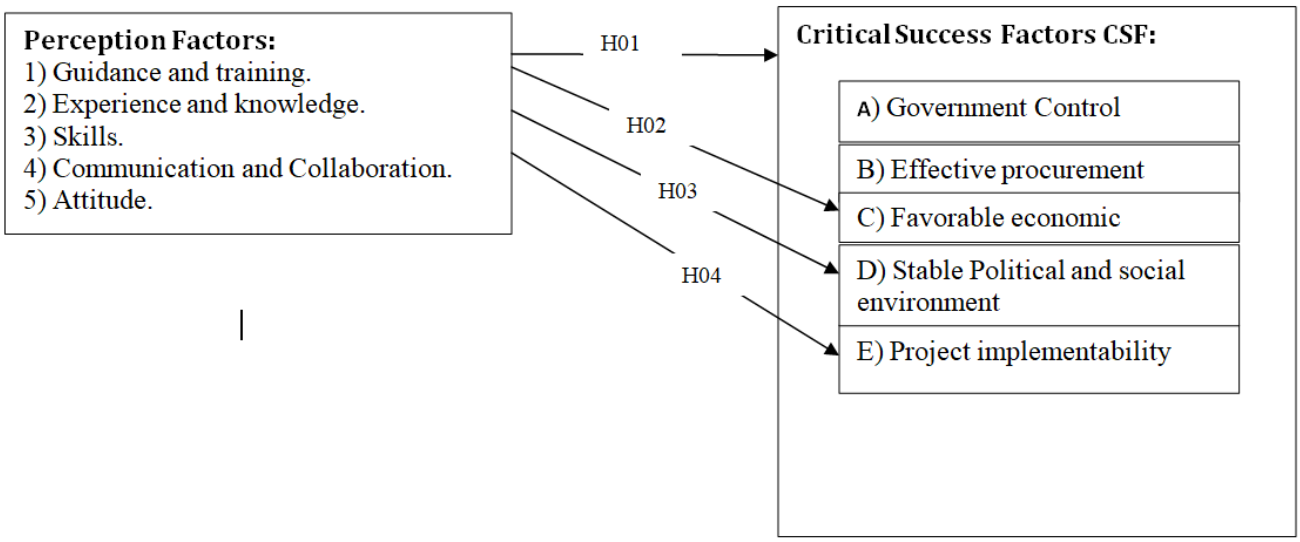


Figure 2 shows the relations to be tested in this study, based on the literature review. Provided table 2 and table 3, show that PPP CSF are divided into five constructs, but the majority are within three construct, which will be emphasized in this study. They are:

1) Effect of perception criteria on PPP CSF

2) Effect of perception in particular, on the main three constructs of PPP CSF which are favourable economic condition, stable political and social environment and project implementability as indicated with this study.

The following null hypothesis is described as below:

**Hypothesis 01:** There is no influence between PPP Perception and CSF.

**Hypothesis 02:** There is no influence between PPP Perception and favourable economic condition.

**Hypothesis 03:** There is no influence between PPP Perception and Stable Political and social environment

**Hypothesis 04:** There is no influence between PPP Perception and Project implementability

# 4. Research Methodology

This section describes the research method used to test and examine the effects of PPP perception on the PPP CSF and its constructs (group of factors) and variables, in order to satisfy the research objectives. In this research, a quantitative method was used to analyze the collected data by questionnaire. The data will be tested and verified before testing the relation between the aforementioned variables in the theoretical framework.

"Quantitative analysis techniques such as graphs, charts and statistics allow us to do this; helping us to explore, present, describe and examine relationships and trends within our data" (Saunders 2009). He also argues that quantitative research is used to confirm the hypothesis and to generalize it from the sample of population to the entire population.

## 4.1. Questionnaire design

The questionnaire was designed into three main parts: The first part covers the demographic questions, to assess the main demographic variables, including age, gender, education, marital status, job status, experience (years and location), working sector and the experience area. The second part covers PPP perception factors and all their variables, based on the literature review, which are Guidance and training, Experience and knowledge, Skills, Communication and Collaboration and attitude. Also, all the questions came from the literature review, as shown in table 4. The third part came to cover twenty PPP CSF, which are grouped into five constructs, -all of these factors-, and constructs extracted from the literature review as listed in table 2 and table 3. Participants were asked to respond based on a 5 point Likert scale, where 5 was Extremely Significant, 4 Very Significant, 3 Moderately Significant, 2 Slightly Significant and 1 Not at all significant.

A draft survey was provided for an educational expert in project management and specifically in PPP to review it. He came back with modifications on questions format, and some questions were deleted based on his advice. Before sending the questionnaire to the entire sample, a pilot test was conducted on 41 respondents. The results were tested to be sure about data accuracy. Respondents were also asked about their opinion on the questionnaire, and their feedbacks were collected and discussed

again with the PPP expert, then some minor changes on questions' wording were modified based on the feedback.

### 4.2. Sampling and Population

The survey was used to get samples of project managers who are working in UAE, and focus on project managers who are working in both the public sector and private sectors, to get their opinion based on their experience about PPP projects. The sample was insured to be from both private and public sectors. LinkedIn professional network search engine is used to find the project managers who have experience in UAE in both private and public sectors, and to distribute the survey among them. Around one thousands invitations were sent to fill the online survey. Total responses were 230, and only 162 completed the survey with full answers.

# 5. Data analysis

For this research, computer software was used to help in analyzing the data which was collected by the questionnaires. Statistical Package for Social Sciences (SPSS) was used after filtering all respondents' answers, and took only the completely answered forms, and then data was prepared to be as a suitable input to SPSS, by defining the variables, constructs and global variables.

The analysis will cover descriptive demographic factors, reliability test for global and construct variables, correlation test for relations between the variables from the conceptual framework, and regression test between the variables from conceptual framework, to validate the results to the entire sample.

## 5.1. Descriptive demographic factors

The total number of responders is 164, and they are divided based on gender as following: 142 of them are males, which came as 86.6%, while 22 of them are females, which came as 13.4%.

**Table 5 : Gender of respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 142 | 86.6 | 86.6 | 86.6 |
| | Female | 22 | 13.4 | 13.4 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 5 shows gender frequency, percentage, and valid percentage of respondents.

Regarding marital status of respondents, it shows that 142 with 86.6% of project managers are married, and only 22 with 13.4% are unmarried.

**Table 6: Marital Status of Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Married | 142 | 86.6 | 86.6 | 86.6 |
| | Unmarried | 22 | 13.4 | 13.4 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 6 shows marital status frequency, percentage and valid percentage of respondents.

For the educational level of respondents, it shows that 1 with 0.6% of project managers have a high school education, 16 with 9.8% are holders of a college degree, while 57 with 34.8% have a graduate degree.11 with 6.7% hold a high diploma, and 79 with 48.2 are holding Masters degree or above.

**Table 7: Educational Level of Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | High School | 1 | .6 | .6 | .6 |
| | College degree | 16 | 9.8 | 9.8 | 10.4 |
| | Graduate degree | 57 | 34.8 | 34.8 | 45.1 |
| | High Diploma | 11 | 6.7 | 6.7 | 51.8 |
| | Masters or above | 79 | 48.2 | 48.2 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 7 shows Educational Level frequency, percent and valid percent of respondents.

Regarding the primary role of respondents, it shows that 59 with 36% of project managers are working in public sector, while 96 with 58.5% are working in private sector. On the other hand, only 6 with 3.7% are working in the educational sector. Only 3 with 1.8% are into other sectors.

**Table 8: Primary Role of Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Public sector | 59 | 36.0 | 36.0 | 36.0 |
| | Private sector | 96 | 58.5 | 58.5 | 94.5 |
| | Educational sector | 6 | 3.7 | 3.7 | 98.2 |
| | Others | 3 | 1.8 | 1.8 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 8 shows primary role frequency, percent and valid percent of respondents.

The industrial experience of respondents shows 4 with 2.4% of project managers have 5 years or below experience, while 45 with 27.4% have experience from 6 to 10 years. On the other hand, only 61 with 37.2% have 11 to 15 years of experience. 32 with 19.5% have 16 to 20 years of experience for other sectors. Only 22 with 13.4% project managers have experience of 21 years or more.

**Table 9: Industrial Experience of Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 5 years and below | 4 | 2.4 | 2.4 | 2.4 |
| | 6 to 10 | 45 | 27.4 | 27.4 | 29.9 |
| | 11 to 15 | 61 | 37.2 | 37.2 | 67.1 |
| | 16 to 20 | 32 | 19.5 | 19.5 | 86.6 |
| | 21 and above | 22 | 13.4 | 13.4 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 9 shows Industrial experience frequency, percent and valid percent of respondents.

Regarding Number Of Projects, respondents involved in it showed 7 with 4.3% of project managers are not involved in any PPP projects, while 28 with 17.1% are involved in one PPP project. On the other hand, only 16 with 9.8% are involved in 2 PPP projects, 13 with 7.9% are involved in 3 PPP projects. The highest number of 100 project managers with 61%, are involved in 4 PPP projects or more.

**Table 10: Number of Projects Respondents involved in**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0 | 7 | 4.3 | 4.3 | 4.3 |
| | 1 | 28 | 17.1 | 17.1 | 21.3 |
| | 2 | 16 | 9.8 | 9.8 | 31.1 |
| | 3 | 13 | 7.9 | 7.9 | 39.0 |
| | 4+ | 100 | 61.0 | 61.0 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 10 shows Number of Projects Respondents involved in frequency, percent and valid percent of respondents.

For the job status, it shows that 42 with 25.6% of project managers are in first management level. While 101 with 61.6% are in middle management level, only 21 with 12.8% are in lower management level.

**Table 11: Job status of Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | First management level | 42 | 25.6 | 25.6 | 25.6 |
| | Middle management level | 101 | 61.6 | 61.6 | 87.2 |
| | Lower management level | 21 | 12.8 | 12.8 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 11 shows job status of respondents' frequency, percent and valid percent of respondents.

Regarding PPP/PFI Experience, it shows that 148 with 90.2% of respondents have experience in the UAE, while 1 with 0.6% has experience in the UK. On the other hand, only 15 with 9.1% have experience in other countries including UAE, and other countries like (Jordan, Pakistan, KSA, Oman, Canada, Sri Lanka, India, Syria, Egypt, Qatar, Iraq, Austria and international-worldwide)

**Table 12: PPP/PFI Experience of Respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | UAE Experience | 148 | 90.2 | 90.2 | 90.2 |
| | UK Experience | 1 | .6 | .6 | 90.9 |
| | Others | 15 | 9.1 | 9.1 | 100.0 |
| | Total | 164 | 100.0 | 100.0 | |

Table 12 shows PPP/PFI Experience of respondents' frequency, percent and valid percent of respondents.

### 5.2. Reliability Test

Cronbach's alpha considered the most popular measurement for the reliability of the variables, when using quantitative approach and questions, came in Likert scale; value of Cronbach's alpha 0.7 or above is considered as reliable and acceptable in research (Hair et al. 2006). So Cronbach's alpha is used to test one variable reliability or a set of variables together . It is also considered as the common statistic used to describe the internal consistency reliability of the items; so a test was conducted for global variables and constructs, which are part of the study hypothesis, and result shows as following:

**Table 13: Global Perception Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .865 | .868 | 17 |

As shown in table 13, Cronbach's Alpha is 0.865, which indicates a high level of internal consistency for our scale with this study, and there is no need to delete any item to improve Cronbach's alpha.

Regarding the reliability test of global variable of CSF, the following table shows the result:

**Table 14: Global CSF Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .965 | .966 | 53 |

Table 14 shows that Cronbach's Alpha is 0.965, which indicates a very high level of internal consistency for our scale with this study, and there is no need to delete any item to improve Cronbach's alpha.

For reliability test of favourable economic condition construct, the following table shows the following results:

**Table 15: Favourable economic condition constructs Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .914 | .915 | 15 |

Table 15 shows Cronbach's Alpha is 0.914, which indicates a very high level of internal consistency for our scale with this study, and there is no need to delete any item to improve Cronbach's alpha.

The reliability test of project implementability construct, the following table 16 shows the following results:

**Table 16: Project implementability construct Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .904 | .905 | 16 |

Table 16 shows Cronbach's Alpha is 0.904, which indicates a very high level of internal consistency for our scale with this study, and there is no need to delete any item to improve Cronbach’s alpha.

Finally, the reliability test of stable political and social environment construct, the following table 17 shows the following results:

**Table 17: Stable political and social environment construct Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .867 | .871 | 13 |

Table 17 shows Cronbach's Alpha is 0.867, which indicates a high level of internal consistency for our scale with this study, and there is no need to delete any item to improve Cronbach’s alpha.
Therefore, there was inter-consistency (homogeneity) among each scale and its remaining elements. In conclusion, all scales and their remaining elements are reliable.

### 5.3. Correlations Test

In order to measure the strength of the relationship between variables, a correlation test was conducted four times to test all hypotheses for either, and to accept or reject the null hypothesis. If the result of the test came between 0 to 0.2, it is considered as being a weak relationship, 0.3 to 0.6 considered as moderate relation, and 0.7 to 1 considered as a strong relation.
The first test was conducted between perception global variables, and CSF global variables, and results show below:

**Table 18: Perception Global and CSF Global correlation**

| | | Global_Perception | Global_CSF |
|---|---|---|---|
| Global_Perception | Pearson Correlation | 1 | .745** |
| | Sig. (2-tailed) | | .000 |
| | N | 164 | 164 |
| Global_CSF | Pearson Correlation | .745** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 164 | 164 |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 18 shows the correlation result between Perception Global and CSF Global and it is significant at a 0.01 level, which means 99% chance, because there is a relationship between variables. The relation is strong and positive as it shows 0.745; so the null hypothesis H01 is rejected, as result shows that there is an influence between PPP perception and CSF.

The second test was conducted between perception global variable and favourable economic condition construct variable, and result shows the below:

**Table 19: Perception Global and favourable economic condition construct correlation**

| | | Global_Perception | Construct_CSF_Favourable_Economic_Condition |
|---|---|---|---|
| Global_Perception | Pearson Correlation | 1 | .677** |
| | Sig. (2-tailed) | | .000 |
| | N | 164 | 164 |
| Construct_CSF_Favourable_Economic_Condition | Pearson Correlation | .677** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 164 | 164 |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 19 shows the correlation result between Perception Global and favourable economic condition construct and it is significant at the 0.01 level, which means 99% chance that this is because there is a relationship between variables. The relation is

moderate and positive as it shows 0.677; so the null hypothesis H02 is rejected, as result shows there is an influence between PPP perception and favourable economic condition.

The third test conducted between perception global variable and Project Implementability construct variable, and result shows the below:

**Table 20: Perception Global and Project Implementability construct correlation**

| | | Global_Perception | Construct_CSF_Project_Implementability |
|---|---|---|---|
| Global_Perception | Pearson Correlation | 1 | .719** |
| | Sig. (2-tailed) | | .000 |
| | N | 164 | 164 |
| Construct_CSF_Project_Implementability | Pearson Correlation | .719** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 164 | 164 |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 20 shows the correlation result between Perception Global and Project Implementability construct, and it is significant at a 0.01 level, which means 99% chance, because there is a relationship between variables. The relation is strong and positive, as it shows 0.719; so the null hypothesis H03 is rejected, as the result shows that there is an influence between PPP perception and Stable Political and social environment.

The fourth test is conducted between perception global variable and stable political and social environment construct variable, and the results show as below:

**Table 21: Perception Global and Stable Political and Social Environment construct correlation**

| | | Global_Perception | Construct_CSF_Stable_Political_and_Social_Environment |
|---|---|---|---|
| Global_Perception | Pearson Correlation | 1 | .693** |
| | Sig. (2-tailed) | | .000 |
| | N | 164 | 164 |
| Construct_CSF_Stable_Political_and_Social_Environment | Pearson Correlation | .693** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 164 | 164 |

**. Correlation is significant at the 0.01 level (2-tailed).

Table 21 shows the correlation result between Perception Global and Stable Political and Social Environment construct, and it is significant at a 0.01 level, which means 99% chance, because there is a relationship between variables. The relation is moderate and positive as it shows 0.693; so the null hypothesis H04 is rejected as the result shows there is an influence between PPP perception and Project implementability.

### 5.4. Regression Test

To find the prediction of the PPP perception on CSF, we conducted an analysis using SPSS stepwise method, displayed in table 22 below:

**Table 22: Perception Global and CSF Global Variables Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Global_Perception | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Global_CSF

Table 22 shows the Variables Entered / Removed, and the Perception Global and CSF Global Variables, used to build the models.

**Table 23: Perception Global and CSF Global Variables Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .745[a] | .556 | .553 | 17.67661 |

a. Predictors: (Constant), Global_Perception

As shown in table 23, the R2 and adjusted R2 values of .556 and .553 respectively, indicate that there is a high degree of goodness of fit of the regression model. In addition, R2 and adjusted R2 values indicate that over 55% of PPP success (CSF global) could be explained by the PPP perception.

**Table 24: Perception Global and CSF Global Variables ANOVAa**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 63316.509 | 1 | 63316.509 | 202.637 | .000[b] |
| | Residual | 50618.930 | 162 | 312.463 | | |
| | Total | 113935.439 | 163 | | | |

a. Dependent Variable: Global_CSF

b. Predictors: (Constant), Global_Perception

In table 24, the F-ratio, which is 202.637, is significant at $p < .001$, which indicates that the regression model predicts the Global CSF well.

**Table 25: Perception Global and CSF Global Variables Coefficientsa**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 49.579 | 11.953 | | 4.148 | .000 |
| | Global_Perception | 2.449 | .172 | .745 | 14.235 | .000 |

a. Dependent Variable: Global_CSF

While table 25 shows the beta value of 2.449, it indicates that if there is more PPP perception, this would lead to more success for PPP (Global CSF), which reiterates the results of the correlation test conducted previously, therefore rejecting null hypothesis H01.

The same test was conducted again to find the prediction of the PPP perception on Favourable Economic Condition. We conducted the analysis using SPSS stepwise method, displayed in table 26 below:

**Table 26: Perception Global and Favourable Economic Condition Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Global_Perception | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Construct_CSF_Favourable_Economic_Condition

Table 26 shows the Variables Entered / Removed, and the Perception Global and Favourable Economic Condition variables used to build the models.

**Table 27: Perception Global and Favourable Economic Condition Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .677[a] | .458 | .454 | 6.40568 |

a. Predictors: (Constant), Global_Perception

As shown in below table 27, the R2 and adjusted R2 values of .458 and .454 respectively, indicate that there is a high degree of goodness of fit of the regression model. In addition, R2 and adjusted R2 values indicate that over 45% of Favourable Economic Condition could be explained by the PPP perception.

**Table 28: Perception Global and Favourable Economic Condition ANOVAa**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 5610.481 | 1 | 5610.481 | 136.732 | .000[b] |
| | Residual | 6647.294 | 162 | 41.033 | | |
| | Total | 12257.774 | 163 | | | |

a. Dependent Variable: Construct_CSF_Favourable_Economic_Condition

b. Predictors: (Constant), Global_Perception

In Table 28, the F-ratio is 136.732, which is significant at p < .001. This indicates that the regression model predicts the Favourable Economic Condition well.

**Table 29: Perception Global and Favourable Economic Condition Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 10.328 | 4.332 | | 2.384 | .018 |
| | Global_Perception | .729 | .062 | .677 | 11.693 | .000 |

a. Dependent Variable: Construct_CSF_Favourable_Economic_Condition

While table 29 shows the beta value of .729, it indicates that if there is more PPP perception, it would lead to more success for PPP (Favourable_Economic_Condition), which reiterates the results of the correlation test conducted previously, therefore rejecting null hypothesis H02.

The same test was conducted again to find the prediction of the PPP perception on stable political and social environment. We conducted the analysis using SPSS stepwise method displayed in table 30 below.

**Table 30: Perception Global and stable political and social environment Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Global_Perception | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Construct_CSF_Stable_Political_and_Social_Environment

Table 30 shows the Variables Entered / Removed, and this shows Perception Global and stable political and social environment variables used to build the models.

**Table 31: Perception Global and stable political and social environment Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .693[a] | .481 | .478 | 4.86001 |

a. Predictors: (Constant), Global_Perception

As shown in above table 31, the R2 and adjusted R2 values of .481 and .478 respectively, indicate that there is a high degree of goodness of fit of the regression model. In addition, R2 and adjusted R2 values indicate that over 48% of stable political and social environment could be explained by the PPP perception.

**Table 32: Perception Global and stable political and social environment ANOVAa**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3542.629 | 1 | 3542.629 | 149.986 | .000[b] |
| | Residual | 3826.395 | 162 | 23.620 | | |
| | Total | 7369.024 | 163 | | | |

a. Dependent Variable: Construct_CSF_Stable_Political_and_Social_Environment

b. Predictors: (Constant), Global_Perception

In Table 32, the F-ratio that is 149.986, is significant at $p < .001$, which indicates that the regression model predicts the stable political and social environment well.

**Table 33: Perception Global and stable political and social environment Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 14.411 | 3.286 | | 4.385 | .000 |
| | Global_Perception | .579 | .047 | .693 | 12.247 | .000 |

a. Dependent Variable: Construct_CSF_Stable_Political_and_Social_Environment

While table 33 shows the beta value of .579, it indicates that if there is more PPP perception, this would lead to more success for PPP (stable political and social

environment), which reiterates the results of the correlation test conducted previously, therefore rejecting null hypothesis H03.

The same test was conducted again to find the prediction of the PPP perception on Project Implementability. We conducted the analysis using SPSS stepwise method displayed in table 34 below.

**Table 34: Perception Global and Project Implementability Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Global_Perception | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100). |

a. Dependent Variable: Construct_CSF_Project_Implementability

Table 34 shows the Variables Entered / Removed, and this shows Perception Perception Global and Project Implementability variables used to build the models.

**Table 35: Perception Global and Favourable Economic Condition Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .719[a] | .517 | .514 | 5.66874 |

a. Predictors: (Constant), Global_Perception

As shown in above table 35, the R2 and adjusted R2 values of .517 and .514 respectively, indicate that there is a high degree of goodness of fit of the regression model. In addition, R2 and adjusted R2 values indicate that over 51% of Project Implementability could be explained by the PPP perception.

**Table 36: Perception Global and Project Implementability ANOVAa**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 5578.697 | 1 | 5578.697 | 173.604 | .000[b] |
| | Residual | 5205.809 | 162 | 32.135 | | |
| | Total | 10784.506 | 163 | | | |

a. Dependent Variable: Construct_CSF_Project_Implementability

b. Predictors: (Constant), Global_Perception

In Table 36, the F-ratio of 173.604, is significant at $p < .001$, which indicates that the regression model predicts the Project Implementability well.

**Table 37: Perception Global and Project Implementability Coefficientsa**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 17.385 | 3.833 | | 4.535 | .000 |
| | Global_Perception | .727 | .055 | .719 | 13.176 | .000 |

a. Dependent Variable: Construct_CSF_Project_Implementability

While table 37 shows the beta value of .727, it indicates that if there is more PPP perception, this would lead to more success for PPP (Project_Implementability), which reiterates the results of the correlation test conducted previously, therefore rejecting null hypothesis H04.

# 6. Discussion and Findings

This section will discuss all of the hypotheses presented in this study, based on literature review and data analysis, and in general, the relationship between PPP perception and global CSF, and the three constructs which hold the majority of CSFs. For each construct, the discussion will focus on the top three variables, based on their ranking from table 2.

## 6.1. Relationship between PPP perception and PPP CSFs (project success)

Findings from this study show that there is a positive relationship between PPP perception and PPP project success. The perception of all stakeholders of PPP projects is increased through the increase of one or more of the following: Guidance and training, Experience and knowledge, Skills, Communication and Collaboration, and Attitude.

On the other hand, the subsequent increase in the success of the critical success factors, or a group of critical success factors related to the same domain (constructs), include: Effective procurement, Favourable economic condition and Stable Political and social environment. The results from both Pearson correlation coefficients tests of this study, show that there is a significant positive relationship between PPP Perception factors, and all critical success factors ($r = .745$, $p < .001$). This strong and positive relationship indicates that the more positive perception of PPP by the project managers, the more successful the PPP project will be. As this study examined the relationship between PPP perception and CSF in the UAE, the initiatives from the government to increase the perception of PPP projects, e.g. PPP guidance by the Ministry of Finance, and the Local Law No. 22 of 2015, issued to manage the PPP project, is statistically proven by the outcomes of this research. Such initiatives helped to build more perception and increased the chances of PPP projects success. This result is in line with current studies. Administration (FHWA) reported the lack of positive perception of PPP projects and the knowledge of implementing them, is considered one of the significance hindering factors for PPP success. Furthermore, Akelere and Gidado (2003) highlighted the importance of educating both the public and private sectors stakeholder, to overcome the gap of understanding each other's requirements, and their respective expectations of the PPP project and its outcomes.

This is in full support of this study's finding of 'Education and training' to be a significant perception factor for increasing the success of PPP projects. This is as well echoed in the study by Cheung et al. (2012), where they concluded that there is a positive relationship between learning the importance of PPP CSF and PPP projects success, especially in newer governments that are trying to increase adoption of PPP projects. Therefore, studying PPP CSF will increase the positive perception of PPP projects by the stakeholders who are trying to adopt such projects in their organizations or countries. This will inevitably lead to more chances of project success.

Regarding skills and experience factors of PPP perception, having skilled and experienced people working in PPP, means having the highest levels of positive perception. Based on the findings of this study, this will lead to project success. This is supported by Islam (2012), as he argues that the lack of PPP skills and experience in developing countries, will hinder the successful implementation of PPP projects. This is also supported by Ameyaw and Chan (2015), as they consider the lack of PPP experience as being one of the leading factors that negatively affect PPPs success.

To increase the chances of having a good CSF, and for a PPP project to succeed, governments should increase the perception of all the parties involved in the PPP project. This can be done by issuing more guides, organizing more training on PPP, hiring and involving people and organizations that have excellent knowledge and experience from successful PPP projects, and to recruit skilled people to manage and implement the project. Furthermore, more communication and collaboration between government (public sector), private sector, lenders, researchers and consultants, through conferences, exhibitions, seminars or meetings, will lead to more involvement of all stakeholders and subsequently the expectations and the perception of PPP success. Having all aforementioned conditions in place will increase the perception of PPP, as the probability of any PPP project to succeed. Having the null hypothesis H01 rejected in data analysis, came aligned with what was presented in the literature review and data findings; hypothesis H01 discusses the global variables of the PPP perception and CSF. Therefore, it can safely concluded that the PPP Perception is having a positive relationship with PPP CSF: i.e. more positive perception will lead to more success, and less PPP perception will inevitably lead to reduced chances of any PPP project to succeed. This is mainly applicable because more understanding of the PPP and its benefits for all parties, reduces the risks, as

each party handles the risks that he's respectively expert in handling, and gets the benefits of building a project with less spending from governmental entities, and cutting costs, in addition to providing much better services for the citizens at reasonable prices.

### 6.2. Relationship between PPP Perception and Favourable Economic Condition

For For the second Hypothesis H02, as per Pearson correlation coefficients tests of this study, there is a significant positive relationship between PPP Perception Global factors, and Favourable Economic Condition ($r = .677$, $p < .001$). This moderate positive relationship indicates that the more positive the perception in PPP, the more chances for PPP projects to succeed by increasing the Favourable Economic Condition factors. Referring to table 3, a construct variables of Favourable economic condition is noticed, and it consists of six factors, which are: Appropriate risk allocation , Favourable Macro-economic condition/ Favourable investment environment/ GDP growth for the country, Favourable legal framework , Multi-benefit objectives of all stakeholders , Sound economic policy, and Local financial market.

As appropriate risk allocation is the highest ranked factor of Favourable economic condition in this study, this concurs with the assertions of Zhang )2005), Almarri & Abu-Hijleh (2017), and Abdou & Al Zarooni (2011), on the importance of appropriate risk allocation as being the most important factor of the PPP CSF. Furthermore, Osei-Kyei and Chan (2015) stress on the importance of risk allocation between the parties. These sources confirm the finding and the significance of the rank of 'appropriate risk allocation' factor to achieve PPP project success.

Akelere and Gidado (2003) suggest in their study of risks and constraints of Nigerian PPP/PFI project, upon having a common understanding of risks allocation between public and private sectors; to reduce the difference towards risk allocation between all parties who are involved in the project. The difference can be reduced by conducting more training, and increasing the education of PPP/ PFI concept. This also supports the result of this research, as the perception can be increased by training and education, and this positively affects the risk allocation process and yields to higher chances of success. De Azevedo et al. (2014) explain how decision-makers depend on their perception which stems from their experience, training, culture, and personal

beliefs to manage the risks. This highlights the importance of having a high level of perception for all stakeholders, and especially for decision-makers.

Ranked second is the Favourable economic condition/Favourable investment environment, which is supported by Zhang (2005). Cheung et al. (2012) agree on the fact that having a good economic condition will increase project's success chances. Galilea and Medda (2009) are also supporting this argument, as the lack of Favourable economic conditions will reduce the interest of expert international companies and lenders in participating in any PPP project. Therefore, increasing the government's perception regarding this point will lead to the establishment of the governmental enablers to improve the economic conditions, in order to attract international investors and expertise companies. Although there is a difference between public and private sectors in developing countries, the private sector considers that a Favourable economic condition as the most important CSF, so better understanding of both private and public sectors will bridge the gap to reach success (Rachmawati et al., 2016). In addition, Beyene, (2014) explains two important factors of Favourable Economic Condition, which are "Government support in providing loan" and "Tax exemption or reduction", and how those positively affect PPP project success. These factors are explained too in the Punurai and Conover (2013) study of taxes, as they consider both governmental taxation policies and liquidity and debts of financial markets as variables to measure the local financial market, which is one factor of Favourable economic condition.

Concerning the third factor, Favourable legal framework, researchers Osei-Kyei and Chan (2015), Almarri and Abu-Hijleh (2017), Hardcastle et al. (2005), and Abdou, and Al Zarooni (2011) have a unanimous agreement over the Importance of this factor, as legal framework is necessary to regulate the practice and protect all parties involved in PPP project. Once a strong and Favourable legal framework exists, it will attract more experts in participating, and will help in the implementation of the project to succeed. This is due to the fact that such a legal framework will regulate the contracts, roles, responsibilities, cash flows, and provide services and end user pricing. In general, this legal framework management is significant to mutually manage the project throughout all phases and for all stakeholders.

### 6.3. Relationship between PPP perception and a stable political and social environment

There is a significant positive relationship between PPP Perception Global factors and stable political and social environment ($r = .693$, $p < .001$). This moderately positive relationship indicates that the more the perception in PPP, the more the chances for projects to succeed, by increasing the stable political and social environment's factors. This test result rejects the null hypothesis H03, as there is statistical evidence that the relationship between PPP perception and stable political and social environment is positive.

Stable Political and social environment construct consists of five factors which are:

1 Strong private consortium.
2 Political support/Political decision making.
3 Good governance.
4 Charismatic leadership.
5 Social support.

Regarding the first factor ,Strong private consortium, Petković et al. (2015) support the idea of having a special purpose vehicle or company (SPV/SPC) to assure the strong consortium of private and public stakeholders, as this company will only focus on one PPP project, and this will draw the attention and focus of all parties into this company to succeed, and guarantees the success of PPP project. This is also verified by a previous study of Minh et al. (2016), as they stress on the effect of the role of local authorities and communication between all sectors, to provide a stable environment, as these authorities play a role in keeping all parties involved within the PPP project. This provides a stable political framework and environment, which influences the acceptance of the private sector, and boosts the projects' success. This is also supported by Ndonye et al. (2014) as they clearly state that "Successful PPP project implementation requires a competent and financially capable private sector consortium."

Regarding political support/political decision making, and good governance which are considered as being the second and third factors respectively, in Cheung et al. (2012) and Galilea and Medda (2009) studies explain how the political authorities support the project, as they provide better assistance and support for PPPs, and they report a positive relationship between political support and project success. This also applies to good governance. One of the learned lessons to arrange a successful PPP

project, is to have a very strong political support, as this provides excellent investment security for the private sector, and a better feeling towards the stability of the project (Sanghi, Sundakov, and Hankinson, 2007; Rulliadi, 2014).

### 6.4. Relationship between PPP perception and Project Implementability

There is a significant positive relationship between PPP Perception Global factors and Project Implementability ($r = .719$ , $p < .001$). This strong positive relationship indicates that the more the perception in PPP, the more the chances for the project to succeed, by increasing the Project's Implementability factors. As per Hampton et al.(2012) studies, they support the results of this study, as they explained that increasing the stakeholders' perception will lead to better meeting schedules, meeting project deadlines, and agreed time frame. This is also supported by Abdel Aziz (2007) as he stated that the lack of perception will lead to wrong implantation of PPP projects, and especially the infrastructure projects.

As described in table 3, Project implementability construct consists of

1. Commitment of public and private parties/communication plan.
2. Experience and technical knowledge /Project technical feasibility/the nature of PPPs/ size/time.
3. Detailed cost/ benefits assessment/ Economic viability.
4. Shared authority between the public and private sector.
5. Strong project plan, operation and execution.
6. Managing relationships.

Gruneberg (2013), Chua et al. (1999), and Weiermair et al. (2008) stress on the importance of having a communication plan with all parties, for the best implementation of the PPP project , as a communication plan is considered one of the most important parts of any project plan .

Regarding the experience and the technical knowledge, Chua et al. (1999), Weiermair et al. (2008), Galilea and Medda (2009), and Scheffler, R.M. and Pathania, V.( 2005), highlight the required experience and expertise from both private and public sectors, in order to lead PPP project to success.

For the third factor of detailed cost and benefits assessment, Zhang (2005) summarizes the average saving of PPP projects as being from 15% up to 60%, depending on the project nature, and the business sector it covers. Almarri, K, and Abu-Hijleh, B (2017) express in their comparative study between UK and UAE, that

there is an agreement over the top 10 ranked factors between the two countries, and one of them is the Detailed cost/ benefits assessment, as having good benefits shared between all parties including the public and private sectors, and lenders, will ensure the project's success . All of the above confirm the positive relationship between the PPP perception and Project Implementability.

Having a better level of PPP perception provides a higher expectancy for the PPP project to succeed. Having this study cover the UAE, it is recommended for the UAE government to spend more on increasing the general perception towards PPP projects, by focusing on issuing more guide, conducting more training, seminars and sessions related to PPP Project, and about its benefits for all parties, and the economic benefits for all citizens, public and private sectors. Also, the government should increase expertise, and prepare people to work on PPP projects by involving them by benchmarking other countries, or bring foreign experienced subjects to work within the government, sharing the knowledge and experience. This will increase the skills to deal with this kind of big projects. As noticed, the majority of the CSFs are grouped in three constructs, which are Favourable economic condition , Project implementability , and Stable Political and social environment, proving that it has a positive relationship with PPP perception. In other words, by increasing the PPP perception for all stakeholders, the chances of projects to succeed will automatically increase, and this can be achieved by increasing the groups/constructs of CSF.

# 7. Conclusion

This study aimed to establish the relationship between PPP perception and PP CSF and its constructs. This was achieved by investigating PPP concept and its implementation within the UAE, and the impact of the PPP perception on project managers who are working within the UAE. So, it came to cover and answer the research questions related to the effect of the PPP perception level on CSF of PPP projects in the UAE, and this all came as null hypotheses: "There is no influence between PPP Perception and CSF." This null hypothesis was rejected by both the literature review and statistical analysis. This result answers the question, as it shows that there is a strong and positive relationship between PPP perception and PPP CSF and project success in the UAE.

Regarding the second question about the relationship between PPP Perception and CSF constructs/groups, this lead to three hypotheses, and the answers are as follows: Hypothesis "There is no influence between PPP Perception and Favourable economic condition" was rejected, as data analysis shows a moderately positive relationship between PPP perception and Favourable economic condition, and this is also supported by the literature review and discussion .

Another hypothesis arose too, within the same question, which is "There is no influence between PPP Perception and Stable Political and social environment". This was also rejected, and shows moderately positive relationship between the PPP perception and Stable Political and social environment.

The last hypothesis related to the same question is "There is no influence between PPP Perception and Project implementability". Like the two earlier null hypotheses, it was rejected, and a strongly positive relationship is proved statistically, through literature review, and in the discussion .

This study provides hard evidence of a positive relationship, existing between PPP perception, and all of the following: PPP CSF in general, favourable economic conditions, stable political and social environment, and project implementability. All of the aforementioned, related to project managers who are working in the UAE in PPP projects. It was ultimately supported by statistical evidence, described in the data analysis section. As shown by the results, sector leaders should pay more attention on PPP perception, in order to increase the probability of PPP projects.

Concerning CSF of PPP Projects in the UAE, table 2 shows a list of CSF, and references from the literature review supporting it. Table 3 also shows how these factors are grouped into constructs/ groups, which is a contribution of this study supported by scores of sources, in establishing constructs for the CSFs..
And regarding the last question, about the perception factor, the result shows in table 4, which includes guidance and training, experience and knowledge, skills, Communication and Collaboration, and the stakeholders involvement.
This research is considered to be of major importance, because it ultimately focuses on PPP projects in the UAE, as there is a minimal number of studies that cover this area. In addition to the latter, it provides strong evidence on that the PPP projects' success, vastly depends on the PPP perception of all parties involved in the project. Evidence was noted in both statistical analysis of the answers provided by project managers working in the UAE, and who participated in the questionnaire, and literature/research specialized in PPP. So the research will inevitably contribute to the enrichment of the existing literature and studies of this new concept in the UAE. Furthermore, it is considered to be a starting point for building a framework for PPP implementation in the UAE.
Finally, investing in the PPP perception factor is essential to lead the PPP projects in the UAE to success; the leaders and the higher management should consider concentrating on increasing the general perception of the PPP projects, and especially for all the parties involved, in order to lead the projects to a much more successful result, and to provide the best services for their citizens.

# 8. Recommendations

This study focuses on the effect of PPP perception in general, on all CSF and three constructs. So we would recommend making further and deeper studies, to cover all of the other constructs of CSF, and also to extend the study towards the effect of PPP perceptions variables, tackling them one by one, on the general CSF and its constructs. Additionally, it would be interesting to rank the perception variables, in order to know the importance of each one of them for PPP projects' success, and to suggest a framework for adoption in local governments, to educate them about PPP best practices, how to handle PPP correctly, and how to come up with procedures and guidelines to implement.

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# 10.Appendices

## 10.1. Appendix 1 questionnaire

| QUESTIONNAIRE | استبيان |
|---|---|
| **Dear Sir/ Madam,**<br><br>This questionnaire gives you the opportunity to express your views on a wide range of issues related to the public private partnership (PPP). Please note that there is no right or wrong answer.<br><br>The questionnaire will be used to collect the primary data needed for a research study. Therefore, we seek your assistance to be as open, fair, honest as possible as you can in your responses.<br><br>The researcher assure you that no individuals will be identified from their responses and there are no requests for confidential information included in the questionnaire. The results of the analysis will be strictly used by the researchers for study purposes ***only.***<br><br>The questionnaire comprises three parts:<br><br>1. General information<br>2. Perception Factors<br>3. Critical Success Factors<br><br>Thank you<br>**Researcher** | **سيدي/سيدتي**<br><br>إن هذا الاستبيان يعطيك الفرصة لعرض وجهة نظرك لمجموعة من المواضيع تتعلق بموضوع الشراكة بين القطاع العام والخاص. الرجاء ملاحظة أنه ليس هناك إجابة خاطئة أو صحيحة.<br><br>سيتم استخدام هذا الاستبيان لجمع البيانات الأولية لعمل دراسة بحثية. عليه نطلب مساعدتكم في الإجابة على الأسئلة بكل وضوح وحرية وصدق وأمانة قدر المستطاع.<br><br>يؤكد لكم الباحث بأنه لن يتم التعريف أو الإشارة إلى الأفراد من خلال الإجابات المقدمة ولن يكون هناك أية إجابات تستوجب السرية يتضمنها الاستبيان. سيتم استخدام نتائج التحليل من قبل الباحثين لأغراض الدراسة فقط.<br><br>يتكون الاستبيان من ثلاثة أقسام:<br><br>1. معلومات عامة<br>2. عوامل الإدراك<br>3. عوامل النجاح الحرجة |

| | |
|---|---|
| | مع الشكر<br>**الباحث** |

| **PART ONE: GENERAL INFORMATION**<br>***Please tick one box for each question:*** | | **الجزء الأول : معلومات عامة**<br>الرجاء وضع علامة لكل سؤال: | |
|---|---|---|---|
| **A. Sex** | | أ – الجنس: | |
| (1) Male | ( ) | (1) ذكر | ( ) |
| (2) Female | ( ) | (2) أنثى | ( ) |
| **B. Marital Status:** | | **ب- الحالة الاجتماع** | |
| (1) Married | ( ) | (1) متزوج/متزوجة | ( ) |
| (2) Unmarried | ( ) | (2) غير متزوج/غير متزوجة | ( ) |
| **C. Education:** | | **ج- المرحلة التعليمية:** | |
| (1) Less than high school | ( ) | (1) أقل من الشهادة الثانوية | ( ) |
| (2) High school | ( ) | (2) الشهادة الثانوية | ( ) |
| (3) College degree | ( ) | (3) خريج/خريجة كلية | ( ) |
| (4) Graduate degree | ( ) | (4) متخرج/متخرجة | ( ) |
| (5) High Diploma | ( ) | (5) الدبلوم العالي | ( ) |
| (6) Masters or above | ( ) | (6) الماجستير أو أعلى | ( ) |
| **D. Age:** | | **د- العمر** | |
| (1) Less than 25 | ( ) | (1) أقل من 25 عاماً | ( ) |
| (2) 25 - 35 | ( ) | 35 - 25 (2) | ( ) |
| (3) 36 - 46 | ( ) | 46 – 36 (3) | ( ) |
| (4) 47 - 57 | ( ) | 57 – 47 (4) | ( ) |
| (5) 58 or above | ( ) | (5) 58 وأكثر | ( ) |
| **E.** Please select your primary role below**:** | | **هـ - يرجى تحديد الدور الأساسي أدناه** | |
| (1) Public sector | ( ) | 1) القطاع العام | ( ) |
| (2) Private sector | ( ) | 2) القطاع الخاص | ( ) |
| (3) Educational sector | ( ) | 3) القطاع التعليمي | ( ) |
| (4) others | ( ) | 4) اخرى | ( ) |
| **F.** How many years of industrial experience do you have?**:** | | **و - كم سنة من الخبرة العملية لديك ؟:** | |
| | | 1) خمس سنوات او اقل | ( ) |
| (1) 5 years and below | ( ) | 10-6 2) | ( ) |
| (2) 6- 10 | ( ) | 15-11 3) | ( ) |
| (3) 11-15 | ( ) | 20 - 16 4) | ( ) |
| (4) 16-20 | ( ) | 5) 21 سنة او اكثر | ( ) |
| (5) 21 years and more | ( ) | | |
| G. How many PPP projects have you been involved in?<br>1) none<br>2) 1<br>3) 2<br>4) 3<br>5) 4 and above | | **كم عدد مشاريع الشراكة بين القطاعين العام والخاص التي شاركت فيها؟**<br>0 (1<br>1 (2<br>2 (3<br>3 (4<br>4 (5 او اكثر | |

| | |
|---|---|
| H. Which of the following PPP projects have you been involved with (you may tick more than one box)?<br>□ Hospital □ Transportation □ Water & Sanitary □ Power & Energy □ IT & Communication<br>□ Housing & Office □ Defence & Naval □ Police & Prison □ School & Education<br>□ Others (please specify) | **أي من مشاريع الشراكة بين القطاعين العام والخاص التالية قد شاركت فيها (يمكنك وضع علامة على أكثر من مربع واحد)؟**<br>**□المستشفى □ النقل □ المياه والصرف الصحي □ الطاقة والطاقة □ تكنولوجيا المعلومات والاتصالات**<br>**□الإسكان والمكتب □ الدفاع والبحرية □ الشرطة والسجن □ مدرسة والتعليم**<br>**□أخرى (يرجى التحديد(** |
| **I. Job Status:**<br>(1) First management level ( )<br>(2) Middle management level ( )<br>(3) Lower management level ( ) | **ز – المستوى الوظيفي:**<br>( ) (1) ادارة عليا.<br>( ) (2) ادارة وسطى.<br>( ) (3) ادارة دنيا. |
| **J. PPP/PFI Experience:**<br>(1) UAE Experience ( )<br>(2) Non UAE Experience ( ) | **ح – الخبرة في مجال الشراكة بين القطاع العام والخاص**<br>( ) (1) خبرة في دولة الإمارت العربية المتحدة<br>( ) (2) خبرة خارج دولة الإمارت العربية المتحدة |

**PART TWO: Perception Factors**
***Please tick one box for each item:***
**Please rate each of the following statements based on their significance to the perception of PPP project**

**ES= Extremely Significance**
**VS = Very Significance**
**MS = Moderately Significance**
**SS = Slightly significance**
**NS = Not at all significance**

الجزء الثاني : عوامل الإدراك
**الرجاء وضع علامة(√) لكل سؤال:**
يرجى تقييم كل عبارة من العبارات التالية بناء على أهميتها في تصور و ادراك مشروع الشراكة بين القطاعين العام والخاص.

**ES=** *مهم للغاية*
**VS =** *مهم جدا*
**MS =** *متوسط الاهمية*
**SS =** *قليل الاهمية*
**NS =** *ليس مهم*

| | ES | VS | MS | SS | NS | |
|---|---|---|---|---|---|---|
| 1) formal employees training and development programmes | | | | | | 1) تدريب الموظفين الرسميين وبرامج التنمية |
| 2) Hours of training per year | | | | | | 2) ساعات التدريب سنويا |
| 3) Variety of training | | | | | | 3) التنوع في موضوعات التدريب |
| 4) Familiarity of PPP aspects | | | | | | 4) معرفة الجوانب الشراكة بين القطاع العام والخاص |
| 5) Years of experience on PPP | | | | | | 5) عدد سنوات الخبرة في الشراكة بين القطاع العام والخاص |
| 6) Number of PPP projects involved in | | | | | | 6) عدد مشروعات الشراكة بين القطاعين العام والخاص المشارك بها |
| 7) Technical related project skills | | | | | | 7)المهارات الفنية المتعلقة بمشاريع الشراكة بين القطاع العام والخاص |
| 8) contract management Project skills | | | | | | 8)المهارات المتعلقة بادارة عقود مشاريع الشراكة بين القطاع العام والخاص |
| 9)Performance management skills | | | | | | 9) مهارات إدارة الأداء |
| 10) effectiveness of communication with the private sector | | | | | | 10) فعالية التواصل مع القطاع الخاص |
| 11) time is spent in communicating between parties | | | | | | 11) الوقت المقضي بالتواصل بين جميع الاطراف |
| 12) Involvement of NGOs | | | | | | 12) مشاركة المنظمات غير الحكومية |
| 13) Involvement of Experts | | | | | | 13) مشاركة الخبراء |
| 14) Involvement of Public authorities' government agencies. | | | | | | 14) مشاركة الهيئات الحكومية للسلطات العامة. |
| 15) agreement between the senior debt holders and the government | | | | | | 15)الاتفاق بين كبار أصحاب الدين والحكومة |
| 16) intend to see the project through until the end of the contact | | | | | | 16) النية في رؤية المشروع حتى نهاية العقد |
| 17) securitise most of PPP projects | | | | | | 17)توريق معظم مشاريع الشراكة بين القطاع العام والخاص |

**PART Three: Critical Success Factors**
***Please tick one box for each item:***

**The following are the critical success factors for PPP projects, Please rate the significance of following statements**

**ES= Extremely Significance**
**VS = Very Significance**
**MS = Moderately Significance**
**SS = Slightly significance**
**NS = Not at all significance**

الجزء الثالث : عوامل النجاح الحرجة
**الرجاء وضع علامة(√) لكل سؤال:**

**فيما يلي عوامل النجاح الحاسمة لمشاريع الشراكة بين القطاعين العام والخاص، يرجى تقييم أهمية البيانات والجمل التالية**

**ES=** *مهم للغاية*
**VS =** *مهم جدا*
**MS =** *متوسط الاهمية*
**SS =** *قليل الاهمية*
**NS =** *ليس مهم*

| | ES | VS | MS | SS | NS | |
|---|---|---|---|---|---|---|
| 1) Equal commitment to the objectives of the PPP project | | | | | | 1) الالتزام المتساوي بأهداف مشروع الشراكة بين القطاعين العام والخاص |
| 2) Trained workforce | | | | | | 2) القوى العاملة المدربة |
| 3) Proper risk analysis | | | | | | 3) تحليل المخاطر المناسبة |
| 4)Transparency of the risk allocations | | | | | | 4) الشفافية في توزيع المخاطر |
| 5) Clear plan for protecting the investment | | | | | | 5) خطة واضحة لحماية الاستثمار |
| 6) Guaranteeing the cash flows | | | | | | 6) ضمان التدفقات النقدية |
| 7) Foreign exchange guarantee. | | | | | | 7) ضمان صرف العملات الأجنبية. |
| 8)Wide advertising of upcoming procurement opportunities | | | | | | 8) الإعلان على نطاق واسع من فرص الشراء القادمة |
| 9)Public opening of bids | | | | | | 9) فتح العطاءات امام العامة |
| 10)Pre-disclosure of all relevant information | | | | | | 10) الكشف المسبق عن جميع المعلومات ذات الصلة |
| 11)Effective project organization structure | | | | | | 11)الهيكل التنظيم الفعال للمشروع |
| 12)Strong and capable project team | | | | | | 12) قوة وقدرة فريق المشروع |
| 13)Good relationship with host government authorities | | | | | | 13) علاقة جيدة مع السلطات الحكومية المضيفة |
| 14) negotiating contracts for a PPP | | | | | | 14) التفاوض بشأن عقود الشراكة بين القطاعين العام والخاص |
| 15) allow sufficient time to complete the competitive procurement process | | | | | | 15) إتاحة الوقت الكافي لاستكمال عملية الشراء التنافسية |
| 16) Restricted tender | | | | | | 16) المناقصة المقيدة |
| 17) Continues government support for entire project life cycle | | | | | | 17) مواصلة الدعم الحكومي لدورة حياة المشروع بأكملها |
| 18) Citizens are knowing why project exists, and what its operating costs | | | | | | 18) المواطنون يعرفون سبب وجود المشروع، وما هي تكاليف التشغيل |
| 19) Identification of all the factors (Favourable and unFavourable) | | | | | | 19) تحديد جميع العوامل (مواتية وغير مواتية) |
| 20) Financial valuation of costs and benefits | | | | | | 20) التقييم المالي للتكاليف والمنافع |
| 21) Social Benefit | | | | | | 21) المنافع الاجتماعية |
| 22) achieve self-reliant and sustainable development and social justice | | | | | | 22) تحقيق الاعتماد على الذات والتنمية المستدامة والعدالة الاجتماعية |
| 23) ideal functioning of government that operates most effectively and efficiently | | | | | | 23) الأداء المثالي للحكومة التي تعمل بأقصى قدر من الفعالية والكفاءة |
| 24) lower risk market | | | | | | 24) سوق قليل المخاطر |

| | | | | | | |
|---|---|---|---|---|---|---|
| 25) return on assets | | | | | | 25) العائد على الأصول |
| 26) return on equity | | | | | | 26) العائد على حقوق المساهمين |
| 27) Review the associated technical problems | | | | | | 27) مراجعة المشاكل التقنية المرتبطة بها |
| 28) Technical aspects satisfy all relevant regulatory requirements. | | | | | | 28) الجوانب التقنية تلبي جميع المتطلبات التنظيمية ذات الصلة. |
| 29)Commitment of senior executives | | | | | | 29) التزام كبار المسؤولين التنفيذيين |
| 30) Integration of different divisions | | | | | | 30) دمج الانقسامات المختلفة |
| 31) multidisciplinary team | | | | | | 31) فريق متعدد التخصصات |
| 32) leaderships able to solve problems | | | | | | 32) قيادات قادرة على حل المشاكل |
| 33) leaderships able to leading Others | | | | | | 33) قيادات قادرة على قيادة الآخرين |
| 34) leaderships able to Intellectual Inquiry | | | | | | 34) القيادات قادرة على تحقيق الملكية الفكرية |
| 35) well documented and well prepared project plan | | | | | | 35) خطة مشروع موثقة جيدا وجيدة الإعداد |
| 36) good allocation for resources | | | | | | 36) تخصيص جيد للموارد |
| 37) well defined milestones | | | | | | 37) تعريف واضح لمراحل المشروع |
| 38) the rights of private investors | | | | | | 38) حقوق المستثمرين من القطاع الخاص |
| 39) the obligation of private investors | | | | | | 39) التزام المستثمرين من القطاع الخاص |
| 40) equitable treatment of all shareholders | | | | | | 40) المعاملة العادلة لجميع المساهمين |
| 41) all parties agree on multi-benefit objectives | | | | | | 41) تتفق جميع الأطراف على أهداف متعددة المنافع |
| 42)all partners understand and respect each other's Goals | | | | | | 42) جميع الشركاء فهم واحترام أهداف بعضهم البعض |
| 43) Emotional support | | | | | | 43) الدعم العاطفي |
| 44) Instrumental support | | | | | | 44) الدعم الادواتي |
| 45) Informational support | | | | | | 45)الدعم المعلوماتي |
| 46) liquidity and depth of financial markets | | | | | | 46) السيولة وعمق الأسواق المالية |
| 47)governmental taxation policies | | | | | | 47) السياسات الضريبية الحكومية |
| 48) shared responsibility with established procedures | | | | | | 48) المسؤولية المشتركة مع الإجراءات المعمول بها |
| 49) shared decision making | | | | | | 49) صنع القرار المشترك، |
| 50) effective negotiations between public and private sectors | | | | | | 50) مفاوضات فعالة بين القطاعين العام والخاص |
| 51) Real Gross Domestic Product (GDP) | | | | | | 51) الناتج المحلي الإجمالي الحقيقي |
| 52) The Unemployment Rate | | | | | | 52) معدل البطالة |
| 53) The Stock Market | | | | | | 53) سوق الأوراق المالية |