

Understanding of CSFs in the application of Public-Private Partnership (PPP) Toll expressway in Malaysia



Syaromi Ramli, Zainal Abidin Mohamed

Abstract: Expressways are extremely expensive to build and maintain. A major infrastructure project and services involve massive public investments starting from planning, land acquisition, grading, paving and other expenditure. As an alternative, Public Private Partnership (PPP) is a popular tool for the government to cope and meet the increasingly demand by capitalising on private sectors 'resource and expertise. Given the inherent advantages of PPP model over conventional model, the PPP model was highly favoured and adopted for toll expressway development in Malaysia. Many studies have been made on PPP in the literature but very few have been conducted to investigate factors affecting adoption of PPP toll expressway in Malaysia. Thus, this paper attempts to register all these Critical Success Factors (CSFs) from available journal articles published since 2012. Twenty (20) articles were identified and all the CSFs in them were registered in one list. A two stage exploratory sequential mixed method design was adopted. The first stage was to list all the 161 CSFs that illustrated in the articles and qualitatively analysed them (using thematic analysis) and this resulted in reducing the number to 77. Then these 77 themes of CSFs went through of consolidating exercise into grouping them under the relevant Clusters. Overall, there are nine (9) clusters of criteria of CSFs that can be consolidated as factors affecting on adoption of PPP namely;(1) risks cluster, (2) governmental influence cluster, (3)project viability cluster, (4)organisational cluster, (5)economic and financial cluster, (6)legal framework cluster, (7)technology and innovation cluster, (8) social and environment cluster, and (9) trust cluster. The consolidated nine (9) clusters of CSFs list then went through a final stage of analysis for validation. A set of questionnaire to validate the degree of importance of these nine (9) clusters of factor affecting was prepared and sent to thirty (30) experts in PPP from three (3) main sectors; public, private and academic. The descriptive analysis was done by using Statistical Package for Social Sciences (SPSS) Version 23.0 to differentiate these nine (9) clusters of factor affecting through their mean score. Finally, based on the group mean score value higher than 3.95, three (3) clusters of CSFs were selected as the most factor affecting in adoption of PPP namely; governmental influence, project viability and trust. This list is recommended to be considered in future studies of the influencing factors of involvement private sectors into PPP particularly on expressway projects.

Keywords : Toll Expressways; Public-Private Partnership (PPP); Critical Success Factors (CSFs); Trust; Governmental Influence; Project Viability.

I. INTRODUCTION

Public Private Partnership (PPP) is a collaboration that involves public and private sectors, in which both of the parties commit to a project by contributing their respective complementary skills, with different level of involvement and responsibility, to more effectively serve the public goods and services. The definition of PPP is very diverse and situational but almost all have certain common qualities, such as: (a) the partnership always connote cooperation of two or more subjects (b) each subject is principal, (c) the relationship is long-term, stable, and subject to mutual and complementary benefits, (d) subjects transfer the material or immaterial resources to the partnership, and (e) the risk and responsibility are delegated to all participants in the partnership [4].

The term PPP was employed for the very first time in the second half of the 20th century [30], but it was only in mid 1980s that PPP was researched rigorously and implemented [8];[19]. The World Bank Report of 2006, mentioned that in its preliminary phase, PPP policy came into enforcement mainly in the UK and the USA. This policy was in tandem with their neo-liberalistic ideology of "the supremacy of the private sector and market forces in fostering development" [26]. The first decade of the year 2000 had shown some consolidation of specific PPP programs. While others' went into stagnation, PPP expanded in the new markets, especially in Asia.

PPP is a progressively popular selection for policy makers to generate platform for the development of infrastructure in this country. The introduction of PPP concept has been hailed as an efficient instrument for the extension of public infrastructure provision and also cost-effective. During the early stages of toll road development, public sector expressway authorities were the main actors but since last ten (10) years saw the private sector got increasingly involved especially in the emerging countries. Thus, at present, the majority of ongoing and planned toll roads in all of the countries involve the private sector and PPP has become veritable tool on the toll expressway development.

Revised Manuscript Received on November 30, 2019.

* Correspondence Author

Syaromi Ramli*, Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Malaysia. Email: syaromiromie@gmail.com.

Zainal Abidin Mohamed, Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Malaysia. Email:laniaz@usim.edu.my.

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](http://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>

II. PROBLEM STATEMENT

In Malaysia, the first PPP recorded was in 1966 but it was only after 1980 that it became formalized when the government launched the privatization program. The privatisation and Malaysia Incorporated policies programme in Malaysia is a broad primarily based term with the three (3) main criteria which are; no impact on government monetary funds, risks are entirely borne by non-public sectors and the government acts as a regulator. Throughout the privatisation period from 1983 to 2005, extensive activities within the economy have been implemented such as hospital, highway and airport constructions, electricity, gas and water supplies, telecommunication, telecommunication, postal services. Therefore, the mechanisms of privatisation conjointly take varied forms.

April 22nd 2009, the Public-Private Partnership Unit (3PU) also known as UKAS was established and placed under the Prime Minister Department acts as a central agency play a centralized coordinating unit as the projects became bigger and increased in number as well as the financing involved. In fact the 3PU reported that since 1983 until June 2016, eight hundred and twenty-four (824) projects had been successfully implemented. Overall the Government had saved a total of RM 207.15 and 9.25 billion in capital and operational expenditure. The total proceeds from sales of Government equity and assets stands at RM6.48billion. During the 2015 budget presentation in Parliament, the Malaysian Government allocated RM50.5 (RM 4.2=1 USD) billion for Development Expenditure (DE) where the economic sector received the highest share at RM29.3 billion. From these, 54.9% were allocated for implementation of seven (7), infrastructure projects and the construction of four (4) expressway/highways.

Expressway concessions in Malaysia have a chequered history. But despite all these, there seems to be no shortage of bidders for new concessions. Why any corporation would want to bag a highway concession costing billions of ringgit, knowing very well that the break-even period would be after 10 or more years is mystifying? Thus, it should pave the way for enhanced decision making in the choice of suitable toll expressway projects. Recently after 14th General Election and change of ruling party, with the new cabinet teams and realization of country financial constraints and debts, they are no longer are in the mood as the previous government in providing generous financial support and incentives for the PPP. The leaders in the newly elected government are in no mood to provide additional assistance for the PPP that are facing financial difficulties. The PPP now needed to be scrutinized much more thorough and the continuous assistance and incentive that they were enjoying were stopped. This led to the need of this study.

Malaysian Highway Authority (MHA) recorded as of 2019, a total of thirty-six (36) toll concessionaires with six (6) still under construction. As a whole, they reported a mixed outcome in terms of profitability. They have cast doubts not only as to the ability to reduce the toll if not 100% (as envisaged after certain period of operations and stated in the agreement). They agreed that although traffic volume kept increasing in tandem with population growth the maintenance cost is growing at a faster rate. Yet with such

steady traffic volume growth as well as the favourable concessionaires terms agreed upon, in fact some were requesting for not only continued toll charges but to increase them if permitted.

Those toll concessionaires who are doing fairly well are quietly sitting at the side-line hoping that the troubled of PPP could get additional compensation or favours from the new government where they can join and benefit from. Thus these are areas that need to be investigated and below are the next six issues especially from private sectors' perspective on the involvement in PPP which is quite broad and diverse:

a. Issues on why and when to invest on toll expressway projects, and how investors and lenders evaluate projects are issues to be address before toll expressway projects can be financed. Investor's would mainly focus on project economies based on internal rate of return (IRR) and net present value (NPV) and the payback analysis usually through toll charges;

b. Challenges of start-up to toll expressway projects highlights the necessity to rate toll highway projects as a measure of relative risk profile, in timeless of debt service payment, and to assess capital markets. It will provide the ability for project sponsors and financial advisors to consider various financing options;

c. It is vital to put forward the differences in the opinion of the two parties because each party plays a different role in a PPP contract. Involving in PPP toll expressway projects expose the private sector participated to several risk such as the appropriate risk allocation, the feasibility of the project and the revenue stream of the project;

d. The change in the contract strategy especially on PPP framework for expressway projects in Malaysia would have a great tendency to dictate a significant risk exposure towards the key parties involved, particularly the Malaysian Government as project principal, unless operational risks are clearly identified and managed via appropriate mitigation measures prior to a contract signing;

e. This study could assist to portray the perspectives of experts on their evaluation of the PPP expressway projects in Malaysia. Several significant risks that may affect the implementation of PPP expressway projects in Malaysia could be identified and appropriate mitigation measures that can be carried out by policy makers and implementers to minimize them from occurring during the actual implementation;

f. Moreover, the unique characteristics of PPP both at the national level and down to the specific infrastructure segments or sectors require a detail study. Why do the PPP in the expressway/toll concessions performing so differently and need to be given compensations every now and then claiming that they are not earning enough to be able to reduce the toll rates as promised [6]; [7]. Even with these difficulties experienced and reported by many, they still want to continue bidding for new projects. To ensure a smoother pathway for the future of PPP then a study on their performance evaluation need to be done first so that other research can follow. What are the fundamental performance measures that can and need to be done?

III. LITERATURE REVIEW

Based on the description of the problems encountered and its diversity, the issues need to be handled in stages and the starting point is to look at all the various PPP literatures and to scan for their success factors. The systematic literature review were done by applied the keywords of “Public Private Partnership” and “PPP” focused on success factors and challenges of PPP with the range publication year from 2012 up to 2018. A total of 20 papers were identified comprises from both developing and developed countries. Almost 80% of the studies were related to critical success factors on PPP in general and a few specific to the infrastructure projects such as housing, healthcare and port projects. A total of 20 articles related the PPP was extracted, reviewed, and information of these articles were used to identify the most critical factors for the PPP.

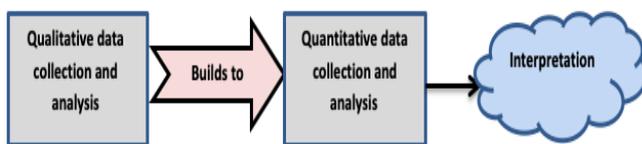
IV. METHODOLOGY

This section will be divided into two (2) segments, research design, data collection, questionnaire design and analysis.

A. Research Design

According to Burn and Grove (2003) a research design as a complete blueprint for a research to be conducted in which the factors of interference that may affect the validity of the research findings are well governed with maximum control. Akhtar (2016) connoted that it is a research structure that plays a role as the ‘glue’ to all the related elements in a research project altogether. In this paper, a mix-method technique was employed as the research design to find the most frequent and authoritative CSFs of PPP in toll expressway projects in Malaysia. This involves both a qualitative and quantitative data collection methods which are document analysis and survey questionnaire respectively. The result from qualitative (descriptive) method will be followed by a thorough quantitative method. This type of mix-method design so-called “exploratory sequential mixed method design” has been conceptualized by Creswell (2012) as follows:

Figure 1: Exploratory Sequential Design (Creswell, 2012)



Creswell explained that the purpose of exploratory sequential mixed method design is to explore phenomenon derived from the selected qualitative data then collecting the quantitative data to further explain the relationships found in the qualitative data. This application of research design is applicable to explore phenomenon, identify themes, design instrument and subsequently test it.

B. Data Collection, Questionnaire Design and Analysis

Employing the exploratory sequential mixed method design, this preliminary analysis used two stagers of data collection methods which are stage 1) documents analysis (qualitative) and stage 2) survey questionnaire (quantitative). The refinement of the data collection methods used in this

research is as explained below:

Stage I: Analysis of secondary data

(i). Identifying 77 themes of CSFs

Secondary data can be collected and analysed in a qualitative research as stated by Sullivan and Sargeant (2011). Qualitative data source is always in textual or illustrative nature. In this research, journal articles were chosen as the document for data finding and it can be categorized as secondary data source. In this study, 20 journal articles published from 2012 to 2018 were identified and will form part of Stage I of the analysis. Based on scrutinizing exercised of 20 articles, a total of 161 CSFs could be identified and thematic analyses were then done on them. From these 20 articles with their respective 161 CSFs, when tabulated and thematic analysis done on them could be consolidated into 77 themes of CSFs. Then, these 77 themes of CSFs factors were further analysed to derive at a smaller number that can be processed further to a higher degree of significance.

(ii) Identifying Clusters of Criteria

These 77 of CSFs need to be further reduced into clusters of CSFs as many were quite similar (in term of meaning and function) or synergistic and thus were combined and consolidated to nine (9) cluster of CSFs as shown in Table 1.

Table 1: Records of the 9 Cluster of CSFs from 77 of CSFs

Cluster of CSFs based on previous author	77 of CSFs
Risk Cluster Sarvari, H., et. al. (2014); Jin, X. H. (2012); Surangkana et al (2014)	General attitude to risk; Perceived ability to manage a risk; Perceived reward for bearing a risk; Appropriate risk allocation and risk sharing; Adherence on time of completion; Uncertainty; Construction risks; Market risks; Effective risk management; Relationship risk.
Governmental Influence Cluster Babatunda et al, (2016); Osei-Kyei and Chan, (2017).	Competitive procurement process; Reduced public and political protests; Political stability; Reduced public administrative cost; Government support; Bureaucracy; Policy pressure; Good governance; Proficient service delivery; Well organised public agency Involvement public officials and leadership
Economic & Financial Cluster Perić Hadžić, A., Jugović, A., & Perić, M. (2015); Babatunda et al, (2016).	Financial availability Stable macroeconomic condition; Sound economic policy; Depth of market sounding; Local economic development; Profitability
Project Viability Cluster [1-7]	<ol style="list-style-type: none"> 1. Thorough and realistic assessment of the cost and benefits; 2. Reduced project life cycle cost; 3. Meeting output specifications; 4. Adherence to budget; 5. Reliable and quality service operation; 6. Project feasibility studies; 7. Detailed project planning; 8. Bankable project with adequate stakeholder involvement;

Cluster of CSFs based on previous author	77 of CSFs
	9. Favourable framework; 10. Investment attraction; 11. Complexity; 12. Simplified payment mechanism, consistent project monitoring; 13. Reasonable debt/equity ratio; 14. Quality of project brief focusing on output specification; 15. Project selection.
Social & Environment Cluster [8-17]	1. Environmental performance; 2. Harmonisation with the EU policies; 3. Social criteria; 4. Community support; 5. Environmental health & safety control; 6. Satisfying the need for public facility/service
Legal Framework Cluster [18-25]	1. Regulatory quality; 2. Reduced litigations and disputes; 3. Adequate Legal structures; 4. Enforcing contracts' 5. Clarification of contract documents; 6. Concrete and precise concession agreement; 7. Difficulties in reaching agreement; 8. Adequate legal structures; 9. Availability of PPP guidelines and standardized documentation; 10. Reliable concession arrangement with due diligence.
Organisational Cluster [26-33]	1. Strength of consortium; 2. Strategic quality management 3. Proper stakeholder management; 4. Network management strategy; 5. Facilities management 6. Proficient service delivery 7. Clarity and responsiveness of governance structures
Trust Cluster [21], [34], [36]	1. Open and constant communication; 2. Long term relationship and partnership; 3. Shared authority between public and private sector; 4. Clear definition of responsibilities; 5. Constant dialogue with market players; 6. Balance between streamlining tender processes and maintaining competition; 7. Availability post evaluation & auditing; 8. Adequacy, efficiency of probity process; 9. Interactive tendering procedures; 10. Commitment & responsibility of public and private sector.
Technology & Innovation Cluster [7], [14], [22], [24]	1. Technology innovation; 2. Knowledge transfer.

Stage II: Analysis of data from a Survey

The outcomes of Stage 1 analysis are the consolidation of the 77 themes of CSFs to nine (9) clusters of CSFs as shown in Table 4.1. All these nine (9) clusters of CSFs were incorporation into a questionnaire. A questionnaire was used to solicit feedback from selected respondents who were heavily involved in PPP projects. The content of the questionnaire was derived from the CSFs gathered from the 20 selected articles. From the survey, the Cluster of CSFs was factored in order to derive at the most critical and frequent factors that influence implementation of PPP in toll expressway projects in Malaysia. (Thematic analysis was used and as described by [13] and [14].

The consolidated of nine (9) clusters of CSFs was used as the items in the survey questionnaire. The data or factors that were selected were based on an achieved mean score value of more than 3.95. A Likert Scale was used to rate the degree of criticality for each factor. The Likert Scale indicates 1 =

extremely not important, to 5 = extremely important. The questionnaire was administered to 30 selected respondents which consisted of 12 academicians; 12 practitioners /professionals from the private sector, and the remaining six (6) were practitioners/professionals from the public sectors. All respondents selected had been actively involved in PPP projects. Technically the questionnaire was reliable because it scored 0.707 for alpha Cronbach value.

V. FINDINGS AND DISCUSSION

Stage I

All the CSFs which illustrated in the 20 articles were scrutinized to derive at a form where they can be grouped into themes and are as shown in the Table 4.0. The deliverables after stage I are the 161 CSFs. Then the 161 CSFs need to be further reduced as many due to duplication of meaning and function that resulted of 77 themes CSFs.

Stage II

These 77 themes of CSFs were synergistic and thus were combined and further consolidated into nine (9) clusters of CSFs as shown in Table 4.1. These nine (9) Cluster factors need to be validated further.

Finalized Cluster of Factor Affecting

The consolidated of nine (9) clusters of CSFs were used as the items in the survey questionnaire. The respondents were chosen from professionals/practitioner and academicians who are experts on the field of PPP and project management for both private and public sectors. They were invited to validate the degree of importance of all these 8 themes cluster of CSFs by giving scores on their rating score. A Likert Scale was used to rate the degree of criticality for each factor. The Likert Scale indicates 1 = extremely not important, to 5 = extremely important.

The data or factors that were selected were based on an achieved mean score value of more than 3.95. The questionnaire was administered to 30 selected respondents which consisted of 12 academicians; 12 practitioners /professionals from the private sector, and the remaining six (6) were practitioners/professionals from the public sectors. All respondents selected had been actively involved in PPP projects. Technically the questionnaire was reliable because it scored 0.701 for alpha Cronbach value.

Table 5.0: Reliability measures of the CSF score.

a. Cronbach's Alpha (α)	b. Median Score	c. N of Items
d. 0.701	e. 3.95	f. 9

Based on the results in Table 5.0, the Cronbach alpha's value is 0.707 which is highly reliable. Salkind (2007) said that the reliability is a test to measure the consistency of the result. This occurs when a test is conducted repeatedly and produces the same result for each test. Reliability test result of Cronbach's Alpha (α) value less than 0.61 is weak, 0.61 to 0.79 is within the acceptable range and the value of 0.8 is high and accepted [13].



Reliability measures whether the scale used would generate the same reading each time the scale is used on the same type of subject in the same condition.

Piaw (2006) also opined that correlation values ranging from 0.75 to 0.95 refer to the satisfactory reliability. Based on the result, the questionnaire was recorded as to have high and accepted value of alpha Cronbach. Therefore, it is reliable and applicable to be used in the other research with the same concern. Based on the input by the experts, the mean score value of all the factors were computed and shown in Table 5.1.

Table 5.1: The Results of the Mean Score Value

g.	No	h.	Item	i.	Total score	j.	Total Mean Score
k.	1.	l.	Risks	m.	114	n.	3.80
o.	2.	p.	Governmental Influence	q.	128	r.	4.27
s.	3.	t.	Economic & Financial	u.	110	v.	3.67
w.	4.	x.	Project Viability	y.	133	z.	4.43
aa.	5.	bb.	Social & Environment	cc.	109	dd.	3.63
ee.	6.	ff.	Legal Framework	gg.	111	hh.	3.70
ii.	7.	jj.	Organizational	kk.	104	ll.	3.47
mm.	8.	nn.	Trust	oo.	128	pp.	4.27
qq.	9.	rr.	Technology & Innovation	ss.	100	tt.	3.33

From Table 5.1 above, the Cluster of CSFs with a mean score of more than the median score of 3.95 were identified as above average and selected to be further researched into, to prove its positive contribution on the success of the PPP. In this study, the three (3) clusters of factors affecting private sector on PPP that have been identified and shortlisted are:

- (i) governmental influence;
- (ii) project viability; and
- (iii) trust.

VI. CONCLUSION

This exercise though basic is fundamental and crucial as it filters the large number of critical success factors (CSFs) that have been reported to play critical roles in the success of PPP projects. This particular paper however focused on the tolled expressway projects especially in Malaysia. Nine (9) Cluster of (from the original list of 161) CSFs were consolidated namely; risks, governmental influence, economic and financial, project viability, social and environment, technology and innovation, legal framework, organisational and trust. Then based on the validation with higher significance, three (3) clusters of CSFs have been identified; trust, governmental influence and project viability.

This reduction in numbers would cut down the time spent needed to identify crucial CSFs for future research related to PPP projects on toll expressways and in a developing country environment. Of course different projects and countries will have their own respective unique characteristics and it is for the researchers to adapt where appropriate. But this particular research project has started on its second phase to make use of these three (3) factors of affecting for further extension work using a theoretical model with bigger sample and SEM AMOS application. A more meaningful and concrete findings is envisaged. Interested parties in vying for PPP projects will have another set of dimension to consider before

plunging into the “looks like a lucrative” PPP Expressway projects but with numerous uncertainties. Narrowing down the CSFs might be able to reduce some of these uncertainties.

REFERENCES

- Abawi, K. (2013). Data collection instruments (questionnaire & interview). Geneva: Geneva Foundation for Medical Education and Research.
- Aerts, G., Grage, T., Dooms, M., & Haendonck, E. (2014). Public Private Partnership for the provision of port Infrastructure: An Explorative Multi-Actor Perspective on Critical Success Factors. *Asian Journal of Shipping and Logistic.*, 273-298.
- Akhtar, M. I. (2016). Research in Social Science: Interdisciplinary Perspectives. Research Design.
- Akintola Akintoye, Matthias Beck & Cliff Hardcastle (2003). Public Private Partnership: Managing Risks and Opportunities. Blackwell Publishing Ltd.
- Akintola, A., Matthias, B., & Cliff, H. (2003). Public Private Partnership: Managing Risks and Opportunities. Blackwell Publishing.
- Alaaraj, S., Mohamed, Z. A., & Ahmad Bustamam, U. S. (2018). External Growth Strategies and Organizational Performance in Emerging Markets: The Mediating Role of Inter-Organizational Trust. *Review of International Business and Strategy*, 28(2), 206–222. <https://doi.org/10.1108/RIBS-09-2017-0079>
- Alaarj, S., Abidin-Mohamed, Z., & Bustamam, U. S. B. A. (2016). Mediating Role of Trust on the Effects of Knowledge Management Capabilities on Organizational Performance. *Procedia - Social and Behavioral Sciences*, 235(2016), 729–738. <https://doi.org/10.1016/j.sbspro.2016.11.074>
- Ameyaw, E. E., & PC, C. A. (2016). Critical success factors for public-private partnership in water supply projects. *Facilities*, 34(3/4), 124-160.
- Babatunde, S. O., Perera, S., Zhou, L., & Udeaja, C. (2016). Stakeholder perceptions on Critical Success Factors For Public-Private Partnership Projects In Nigeria. *Built Environment Project and Asset Management*, 74-91.
- Bernardino, Joao, Z., & Carlos, M. (2010). Applying Social Marginal cost pricing in rail PPPs: Present state, drawbacks and ways forward. *Research in Transportation economics* 30, 59-73.
- Burns, N., & Grove, S. K. (2003). *The Practice of Nursing Research: Conduct, critique and utilization*. Toronto: WB Saunders.
- Chua, Y. P. (2006). *Research Statistic*. Shah Alam: McGraw-Hill Education.
- Creswell, J. W. (2012). *Educational research: planning, Conducting, and Evaluating*.
- Fahim, Thaheem, M. J., & Ullah. (2016). Six Sigma in construction: a review of critical success factors. *International Journal of Lean Six Sigma*, 171-186.
- Hashim, H. A., Low, S. T., & Sapri, M. (2016). Public private partnership (PPP) facilities management for healthcare services in Malaysia: the challenges of implementation. *Journal of Facilities Management*, 350-362.
- Hwang, B. G., & NG, H. B. (2016). Project network management: risks and contributors from the viewpoint of contractors and sub-contractors. *Technological and Economic Development of Economy*, 631-648.
- Ismail, S. (2013). Critical Success Factor of Public Private Partnership (PPP) Implementation In Malaysia. *Asian-Pacific Journal of Business Administration*, 6-19.
- J, L., TingTing, Wang, Y., & Wilkinson, S. (2016). Identifying critical factors affecting the effectiveness and efficiency of tendering processes in Public-Private Partnerships (PPPs): A comparative analysis of Australia and China. *International Journal of Project management*, 701-716.
- Jin, X. H. (2012). Factor analysis of partners' commitment to risk management in public-private partnership projects. *Construction Innovation*, 297-316.
- Mota, J., & Moreira, A. C. (2015). The Importance of Non-Financial Determinants on Public-Private Partnerships in Europe. *International Journal of Project Management*, 33(7), 1563-1575.
- OECD. (2010). *Dedicated Public Private Partnership UUnits: A Survey of Institutional and Governance Structure*. Organization for Economic Co-operation and Development.

22. Osei-Kyei, R., & Chan A, P. C. (2015). Review of Studies On The Critical Success Factors For Public-Private Partnership (PPP) Projects from 1990 to 2013. *Science Direct JPMA*, 1335-1346.
23. Alaarj, S., Mohamed, Z. A., & Bustamam, U. S. A. (2017b). The Effect of Knowledge Management Capabilities on Performance of Companies: A Study of Service Sector. *International Journal of Economic Research*, 14(15), 457-470.
24. Osei-Kyei, R., Chan A, P. C., & Ameyaw, E. E. (2017). A Fuzzy Synthetic Evaluation Analysis of Operational Management Critical Success Factors For Public-Private Partnership Infrastructure Projects. *Benchmarking: An International Journal* 24(7), 2092-2112.
25. Alaarj, S., Zainal, A. M., & Bustamam, U. (2015). The Effect of Knowledge Management Capabilities on the Performance of Malaysian Large-Scale Organizations: An Empirical Study. *Advances in Global Business Research*, 12(1), 1024-1038.
26. Panayides, P. M., Parola, F., & Lam J, S. L. (2015). The Effect of Institutional Factors on Public-Private Partnership Success in Ports. *Transportation Research Part A: Policy and Practice* , 71, 110-127.
27. Perić Hadžić, A., Jugović, A., & Perić, M. (2015). Criteria for the management partnership model in Croatian seaports. *Economic research-Ekonomska istraživanja*, 226-242.
28. Sarvari, H., Valipour, A., Nordin, Y., & Norhazilan , M. N. (2014). Risk ranking of Malaysian public private partnership projects. . *Applied Mechanics and Materials* (Vol. 567, pp. 613-618) In *Trans Tech Publications*., 613-618.
29. Sinisammal, J., Leviakangas, P., Autio, T., & Hyrkas, E. (2016). Entrepreneurs Perspectives on Public-Private Partnership in Health Care and Social Services. *J Health Organ Manag* , 174-191.
30. Squires, D., & Tabor, S. (1991). Technical Efficiency and Future Production. *The developing economies* 29, 3.
31. Alaarj, S., Mohamed, Z. A., & Bustamam, U. S. A. (2017a). Do Knowledge Management Capabilities Reduce the Negative effect of Environment Uncertainties on Organizational Performance? A Study of Public Listed Companies in Malaysia. *International Journal of Economic Research*, 14(15), 443-456.
32. The World Bank. (2006). India: "Building Capacities for Public Private Partnership", Energy and Infrastructure Unit and Finance and Private Sector Development Unit South Asia Region.
33. Trangkanont, S., & Charoengam, C. (2014). Critical failure factors of public-private partnership low-cost housing program in Thailand. *Engineering, Construction and Architectural Management*, 421-443
34. Warsen, R., Nederhand, J., Klijin, E. H., Grotenberg, S., & Koppenjan , J. (2018). What makes public-private partnerships work? Survey research into the outcomes and the quality of cooperation in PPPs. *Public Management Review*, 20(8), 1165-1185.
35. Zhang, S., Chan, A. P., Feng, Y., Duan, H., & Ke, Y. (2016). Critical review on PPP research - A search from the chinese and International Journals. *International Journal of Project Management*, 597-612.
36. (Journal Online Sources style) K. Author. (year, month). Title. *Journal* [Type of medium]. Volume(issue), paging if given. Available: <http://www.IJITEE.org>