

## Identification of Challenges to Attract Public Private Partnerships for Power Generation Infrastructures: A Review

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### Abstract

Although the required capital investments for electricity generation infrastructure from 2018 to 2037 have been projected around USD 14,568 in Sri Lanka, Ceylon Electricity Board is not in a position to meet this requirement due to its negative cash flows. Full private investments are restricted by the law stating that any person to generate capacity above and over of 25 MW, shall Government hold 51% of ownership. Since the funding of power generation is a top urgent priority in the country, this paper investigates the challenges and critical factors involved in going for a public private partnership (PPP) by reviewing the related literature in other countries and identifying main themes that Sri Lanka needs to take into account. Narrative literature review with thematic analysis revealed that 1) Political Instability, 2) State Credibility on policies, 3) Regulatory and legal framework, 4) Transparent and efficient procurement process, 5) Financial Market, 6) Favourable investment environment, and 7) a strong and good private consortium as the mostly influencing macro factors to build PPP for power generation infrastructure projects in Sri Lanka.

**Keywords:** *Ceylon Electricity Board (CEB), Public Private Partnership (PPP), Government of Sri Lanka (GOSL), Power Sector, Challenges and Critical Success Factors (CSF)*

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## Introduction

This paper is a review to identify the challenges and critical factors when attracting Public Private Partnerships (PPP) to the power sector of Sri Lanka. In most of the countries the power is supplied by the government through a State Owned Entity (SOE) as generation, transmission and distribution of power (Kim & Oh, 2017). Sri Lanka, which has already achieved the enviable status among its neighbors of 100% electrification, is also mindful about providing uninterrupted power supply to consumers. The power sector of Sri Lanka is mainly represented by Ceylon Electricity Board (CEB), a State Owned Entity, with having monopoly on power transmission (Sri Lanka Electricity Act No. 20 2009). In addition to the CEB, Independent Power Producers (IPP) and Lanka Electricity Company (Pvt) Ltd (LECO) are also traded in the industry. There were 258 numbers IPP which have contributed 27.1% to national power generation requirement of the country at the end of year 2018(Ceylon Electricity Board, 2018b). LECO is a distribution player which is a subsidiary of CEB and had been accounted for 11.6 % of total distribution operation of the country in year 2018 (Ceylon Electricity Board, 2018b). The IPP operators in Sri Lanka are mostly small-scale investments in Non-Conventional Renewable Energy. Section 9(1) states that “Any person to generate capacity above and over of 25 MW, shall Government hold 51% of ownership” in that organization. Hence, the PPP has been recognized by law as a model of business in power sector as to deliver public service through development of power generation infrastructures in Sri Lanka. Further, PPP has been recognized as the most appropriate investment model for the power sector of developing countries (Osei-Kyei & Chan, 2017). Asian Development Bank (ADB) is of the view that PPP could be used to develop

infrastructures in economies, and they could be achieved excellent outcome if PPP is implemented properly. According to ADB projections, PPP will rise by fourfold in Asia in 25 years, more than half of PPPs are in energy (Asian Development Bank, 2017b). The main motive of Government of Sri Lanka (GOSL) to create PPP was primarily to raise capital rather than as a real commitment and coherent private participation policy (European Commission, 2007).

As per Long Term Generation Expansion Plan (LTGEP), CEB capital requirement for power generation infrastructure for years 2018-2037 is around USD 14,568 million under different sources of generation, wind, solar, thermal, coal and liquid natural gas (LNG) (Ceylon Electricity Board, 2018a). In LTGEP, it is explained that to meet the demand requirement of electricity in the country, it is a necessity to include the investments in the LTGEP. Non implementation of above projects on time has led to power shortage in the country which accelerates cost per unit of electricity immensely to be paid by the public. The growth of economy would be hindered significantly due to shortage of power, it is evident that economy growth rate in Ghana had dropped to 4% in 2014 from 14% in 2011 due to power deficit in the country (Ameyaw & Alfen, 2017). Uninterrupted power supply to the country is the prime responsibility of the policymakers which in turn will result in driving the whole economy through all industries (Chaurey et al., 2012). Due to fiscal constraints, as a policy of government fiscal consolidation (Kang et al., 2019) CEB has been off-loaded from the budget of the Government (Ministry of Finance, 2015). In the meantime, CEB has failed to retain cash flows to invest in projects due to accelerated generation costs (Ceylon Electricity Board, 2017). On the other hand, due to fiscal constraints, governments are under political pressure



to reduce public spending and address budget deficit (Savas, 2000). The policy decision of the Government in respect of sourcing of funds by CEB on its own has been implemented from year 2015 which was mentioned in the budget estimates of 2015 under Ministry of power and Energy (Ministry of Finance, 2015). At present, it is the responsibility of the CEB to source funds for investments that included in the LTGEP. Accordingly, CEB has to depend on International Finance Agencies like Asian Development Bank (ADB), Industrial & Commercial Bank of China (ICBC), and Hatton National Bank (HNB) of Sri Lanka to obtain loans directly to CEB for the projects like, 100MW Mannar Wind Power Project, Green Power Efficiency Improvement Project and Broadland Hydro Power Project respectively. It is a fact that CEB is operating with a negative cash flow mainly due to subsidized tariff structure and non-implementation of cost reflective tariff (Ceylon Electricity Board, 2017). By analyzing financial performance of CEB for the past five years, it is evident that its financial position has got depleted in terms of short term and long term liquidity (Ceylon Electricity Board, 2017). If this financial position persists, CEB would not in a sound position to attract direct borrowings from the funding agencies as per the loan covenants stipulated in the loan agreements such as positive cash flows above and over debt service requirement of the borrower. As per the loan agreements entered into by CEB with the ADB for direct borrowings to projects, 100MW Mannar Wind Power Generation projects, Green Power Development and Energy Efficiency project, under the financial covenants in schedule 5 of the loan agreement stipulated "Free cash flows of the borrower at least 0.9, 1.0 and 1.2 times respectively from financial year commencing 1st January 2018, 2019 and 2020, the debt service requirements of the borrower for the same period on all debt

(ADB, Loan No 3585-SRI, 2017, ADB Loan No 3483-SRI, 2016):ADB, 2016;ADB, 2017a). CEB has been exposed to potential credit default due to its inability to adhere to the loan covenants imposed by funding agencies. As a coercion in implementation of government policies, influence could be placed by international organizations on the policy choices of governments through Fiscal force, financial or moral authority, trade practices, economic sanctions and monopolization of information or expertise (Dobbin et al., 2007). As a part in coercive policy diffusion it is a prerequisite for developing countries to adhere and to adopt covenants and commitments in the loan agreements to receive fund (Kovach et al., 2006). In order to solicit funds from International Aid Organizations (IAO), it is mandatory to adhere to conditions proposed by the IAOs, due to constraints in financing public infrastructure projects in developing countries (Vreerland, 2003). In this backdrop, CEB as the monopolistic power generator in Sri Lanka, has to immediately identify the future challenges in going for PPPs to meet the financial requirements. Further, a growing number of studies use PPP has been recognized as the most appropriate investment model for the power sector of developing countries. However, a substantial part of this research lacks systematization and categorization, and there seems to be a tendency to start anew with every study. Hence, the main purpose of this study is to identify the challenges and critical factors (CF) in attracting Public Private Partnerships (PPP) for power generation infrastructures in Sri Lanka by reviewing the related literature in other countries methodically and identifying main themes that Sri Lanka needs to take into account.

The rest of the paper is organized as follows. Section 2 explains the methodology. Section 3 presents the data



analysis and discussion and Section 4 concludes.

## Methodology

Literature on public private partnerships is inconclusive and therefore, we have used the Narrative literature review as the method of data analysis to identify the critical factors and challenges of PPP. The published literature in electronic academic databases of Emerald Insight, Sage, Taylor and Francis, Science Direct and Wiley on Line were searched from year 2000 to 2019 using the keywords of Public Private Partnership (PPP), Critical Factors and challenges. These academic databases were selected due to quality and reliability of their publications. A thematic analysis has been carried out by reviewing the main themes of Public Private Partnerships (PPP) and challenges and critical factors. The theme of PPP was first reviewed for a correct positioning of the study under the most appropriate definition. Subsequently, critical factors were analyzed using the prior studies in different contexts worldwide. Next, the review was extended based on the identified critical factors to connect them into the Sri Lankan context.

All review and explanations are substantiated through results of extensive reviews of academic journal articles and industry publications. However, owing to the smaller number of studies that could be found in the study area, a citation analysis has not been carried out in this current study.

The discussions, integrations and conclusion in this paper are arranged based on the reviewed literature. Annexure 1 shows the details of articles in journals and industry publications analyzed in the study.

## Data Analysis and Discussion

This section analyses the data in the literature of selected on-line academic

databases from 2000 to 2019 under the theme of PPP and Critical Factors mostly related to developing and emerging economies. After analyzing the related literature in other countries, it is identified the main themes that Sri Lanka needs to consider in attracting PPP for power generation projects. Accordingly, this section discusses the review of the main two themes of our study.

### Thematic analysis

#### *Public Private Partnership (PPP)*

The innovation and implementation of PPP in public administration can be seen over past five decades from the time it was debuted in industrialized countries as New Public Management (NPM) (English & Guthrie, 2003). The basis of the NPM is application market mechanism to deliver public services through involvement of private sector. The PPP is a modus operandi to extract expertise in private sector in relation to innovation, technology and management practices to deliver public services (Broadbent & Laughlin, 2005; Gendron & Cooper, 2001; Hood, 1991). The privatization of state owned enterprises was the first phase of NPM (Hood, 1991). During the decade of 1980 to 1990, the process of privatization was in full pace (Broadbent & Laughlin, 2005). Due to escalated fiscal constraints and budget deficits in economies, governments have to depend on alternative policy tools like privatization and contracting out or entering into inter-governmental agreements to deliver public service with the growth in requirement of public infrastructure which have complexities (Brown & Potoski, 2006). In the latter stage it could be seen that, substantial resistance over privatization from public and political parties (Newberry & Pallot, 2003). Accordingly, the PPP was recognized as an approach to increase public facility and services through involvement of private investment (Linder, 1999).



Few different definitions are available for PPP and it is hard to find a single definition that would agree by most of the practitioners and academics (Grimsey & Lewis, 2002; Klijn & Teisman, 2003; Bovaird, 2004).

Grimsey and Lewis (2002) emphasized that, a PPP is an agreement where the public sector enters into a long term contractual arrangement with the private sector for construction or manage public infrastructure or the provision of services using public infrastructure to the community on behalf of the public sector entity. Klijn and Teisman (2003) argued that PPP should be an institutionalized arrangement between public and private sector actors in which they share a responsibility for a product, risk, benefit and costs with reference to the unique feature of PPP. Although, this definition captures essential partnership' features, it lacks explanation of what exactly a PPP will provide and how (Mouraviev, 2012). The PPP is the Government's willingness to address financial constraints when providing the public services and public infrastructures by invitation of private investors to increase efficiency and effectiveness of public facilities and services (Almarri & Abuhijleh, 2017). Sri Lanka Electricity Act, No .20 of 2009 states that any person to generate capacity above and over of 25 MW, shall Government hold 51% of ownership. Accordingly, in Sri Lanka, the law defines the PPP as any non-government investment in power generation above and over 25 MW. Hence, PPP in the power sector of SL can be identified as tripartite agreement. The government presence in the agreement through a public entity, hence, parties to the PPP agreement are a public entity, private sector and the Government. In practice, Design-Build-Finance (DBF), Build-Operate-Transfer (BOT) and Design-Build-Finance-Operate-Maintenance (DBFOM), Build Own Operate and Transfer (BOOT) are widely being used

as PPP models in developing public infrastructure (Zhao, 2011). These models can be used mostly for power sector of Sri Lanka and some models are already used by the CEB (Ceylon Electricity Board, 2017). It is validated by Dabarera et al., (2019) and according to them, the most suitable PPP models for road sector of Sri Lanka ranked as 1) Build Own Operate Transfer (BOOT), 2) Build Operate Transfer (BOT), 3) Build Own Operate (BOO), 4) Build Transfer Operate (BTO), 5) Build Transfer (BT) and 6) Build Lease Transfer (BLT).

Broadent and Laughlin (2003) and Froud Julie (2003) explained that the governments were expected to achieve two main objectives through implementation of PPP policy reforms. First is Value for Money (VFM) and the second is the mechanism for mitigating risk. VFM is the optimization of government expenditure through expertise having with the private partner in innovation and effectiveness. The value created to private counterpart through PPP arrangement needs to be considered as banks and other financial sponsors behind them (Robert, 2014). Finance for infrastructure development should be chosen if it gives best VFM by maximizing money spent in the PPP (Moro Visconti, 2014). Industrialized countries have been pursued to optimize benefits and cost of investments in public infrastructure through project cost estimation, value to private partners, service quality, quantity and prices for government or end user (Leigland, 2018). VFM being played a pivotal strategic role in PPP (Nayak, 2019). The value for money concept (VFM) could be easily understood as not paying more for a good or a service than its quality or availability. In relation to public spending, it implies a concern with economy (cost minimization), efficiency (output maximization) and effectiveness (full attainment of the intended results) (Glendinning R, 1988). The VFM has



been justified by the PPP implemented in Russia that it has led to increase efficiency of government expenditure (Vaslavskiy & Vaslavskaya, 2019).

The second objective, mechanism of mitigating risk is the transfer of risk (Financial, operational and technical etc.) to the private partner (Khadaroo, 2008). Klijn and Teisman (2003) have explained that, the unique features of PPP were agreement by partners to share few elements and PPP should be an institutionalized arrangement between private and public participants in which participants take over a responsibility for a product, risk, costs and benefits (Klijn & Teisman, 2003). It is concluded that in Hong Kong and Australia through PPP public sector passes significant amount of the private counterpart (Cheung et al., 2010). In Europe, on market failures, PPPs have been created to share risk and financial assets between public and private partners (Lattemann et al., 2009)

In power sector of Sri Lanka, the VFM with PPP could be identified in two perspectives. Firstly, Creation of value through choosing the right investment partner in PPP and creation of value in the value chain by minimizing electricity generation cost through avoiding purchasing of high expensive emergency power due to shortage of power infrastructures. Secondly the mitigation of technological, construction, financial and operational risks could have been transferred to a private constituent through PPP created in power sector of Sri Lanka.

### 3.2.2. Challenges and Critical Factors

Many researchers have used Critical Success Factors (CSF) as a concept to increase the awareness of the optimal ways of executing PPP policy for development of infrastructure (Liu et al., 2014). The empirically reviewed antecedent literature on CSF of PPP were focused on successful execution of PPP

(Cheung et al., 2012; Kavishe & Chileshe, 2019; Osei-Kyei & Chan, 2015). In developed and developing countries, the success of PPP implementation has been achieved through assessing continuously the existing CSF applicable to PPP (Osei-Kyei & Chan, 2015; Cheung et al., 2012). The CSF of PPP differ from region to region, country to country, and sector to sector (Cheung et al., 2012; Chou & Pramudawardhani, 2015; Osei-Kyei & Chan, 2015).

Accordingly, in 2005, as per the research conducted in the United Kingdom (UK), on successful implementation of PPP based on construction industry, three major critical factors which ranked in order, were identified ;(1) a strong and good private consortium, (2) appropriate risk allocation and (3) available financial market (Li et al., 2005).

Further, by analyzing published literature on CSFs of PPP from 1990 to 2013, it is concluded that the high considered main five CSFs irrespective of sector or project model, the stage of project and jurisdiction are (1) political support, (2) appropriate risk allocation and sharing, (3) transparent procurement, (4) community/public support and (5) strong private consortium (Osei-Kyei & Chan, 2015). However, research in 2017 on empirical comparison of critical success factors for public-private partnerships in developing and developed countries based on a case of Ghana and Hong Kong concluded that, in Ghana, PPP are very critical if CSFs are coming under socio-political and economic conditions, but in Hong Kong, the PPP is very critical if CSF are coming under the purview of organization and relationship of PPP. The favorable legal and regulatory framework is a very critical factor in both countries for PPP. Further, provision of government financial assistance, technology innovation and sharing, coordination and community



participation have been identified as less critical factors in both countries (Osei-Kyei & Chan, 2017). It can be noted that in developing countries, CSF mostly on antecedents to the PPP model or the organization, and in both developed and developing countries coordination and community participation which is high ranked CSF in previous research, has been identified as less importance. The critical factors of PPP have been identified previously can be summarized into seven groups, namely; (1) available financial market, (2) adequate legal framework and stable political environment, (3) judicious government control, (4) transparent and efficient procurement process, (5) project economic viability, (6) strong private sector, and (7) equitable allocation of risks (Chan et al., 2010).

As a socio-political and economic critical factor, it is commonly accepted that it is a prerequisite to express the government commitment to PPP policy clearly and explicitly to get the private sector confidence and involvement is a commonly accepted fact (Henderson & McGloin, 2004). The expression of government commitment to PPP policy must be in writing without any ambiguity (Namblard, 2000). Any change of rules and policies by the Government to establish PPP shall become trouble to operate it and could be hindered a lot to the partners' interest in PPP with the cost on international relations (Bezancon X, 2000).

By analyzing two case studies related to power generation in Uganda, four success factors for PPP have been found (Nsasira et al., 2013). They are (1) Regulate and monitoring of PPP to ensure compliance with agreed performance (2) Reduction of corruption through involvement of independent transaction advisers (3) The anticipated risk in use of PPP for electricity management and (4) Goal compatibility. Accordingly, development

of capacity to plan, negotiate, implement and monitor successful PPP projects are required by the government since the government is the principal party (Nsasira et al., 2013).

The research study conducted in Nigeria, twenty-six CSFs were identified and all the stakeholders considered those are important and crucial for success of PPP. The twenty-six CSFs categorized into six principal factors. They are; (1) Assessment of the cost and benefits (2) Legal framework (3) Project technical feasibility (4) Availability of suitable and adequate financial (5) Technical innovation and technology transfer and (6) Favorable investment environment (Babatunde et al., 2016).

Kang et al., (2019) identified five broad categories of factors that directly affect a successful PPP. The factors are political, legislative, economic, financial and management requisites. It is concluded that, the importance of having open and effective management practices, creation of independent agencies, support from government, private operators and citizens and most importantly the effective leadership to tie all these factors together are necessary for building trust and allocating appropriate benefits among partners.

Table 01 depicts the synthesizing of the above literature in a summarized form.

Furthermore, through analysis of above literature major critical factors in macro environment of PPP can be identified as. Regulatory and Legal framework, Political stability, State credibility on policies, Transparent and efficient procurement process, Financial Market, a strong and good private consortium and favorable investment environment without the status of economies, sector and type of PPP.



**Table 01: Synthesizing of Literature in a Summarized Form**

Author/s	Year and country	Paper/Title	Findings/ Influencing factors
Li, B., Akintoye, A., Edwards, P. J., & Hardcastle, C.	2005 United Kingdom	Critical success factors for PPP/PFI projects in the UK construction industry.	(1) a strong and good private consortium, (2) appropriate risk allocation (3) available financial market
Lattemann, C., Stieglitz, S., Kupke, S., and Schneider, A. M.	2009 United Kingdom	Impact of PPPs to broadband diffusion in Europe.	(1) a strong and good private consortium, (2) appropriate risk allocation (3) available financial market
Chan, A. P. C., Lam, P. T. I., Chan, D. W. M., Cheung, E., & Ke, Y.	2010	Critical success factors for PPPs in infrastructure developments: Chinese perspective.	(1) available financial market, (2) adequate legal framework and stable political environment, (3) judicious government control, (4) transparent and efficient procurement process, (5) project economic viability, (6) strong private sector, (7) equitable allocation of risks
Appuhami, Ranjith Perera, Sujatha and Perera, Hector	2011	Coercive policy diffusion in a developing country: The case of public-private partnerships in Sri Lanka	1)lack of state credibility, 2) weak regulatory framework, 3) political instability, 4) underdeveloped capital market 5) lack of social support 6) limited scope.
Nsasira, R., Basheka, B. C., & Oluka, P. N.	2013 Uganda	Public Private Partnerships (PPPs) and Enhanced Service Delivery in Uganda: Implications from the Energy Sector.	(1) Regulation and monitoring (2) Reduction of corruption through involvement of independent transaction advisers (3) The anticipated risk in use of PPP for electricity management and



				(4) Goal compatibility.
Robert Kyei and Albert Chan	Osei-P.C.	2015	Review of studies on the critical success factors for public-private partnership (PPP) projects from 1990 to 2013	1)political support, 2) appropriate risk allocation and sharing, 3) transparent procurement, 4) community/public support 5) strong private consortium
Babatunde, S. O., Perera, S., Zhou, L., and Udejaja, C.	Nigeria	2016	Stakeholder perceptions on critical success factors for public-private partnership projects in Nigeria.	Twenty-six CSFs categorised into six principal factors. (1) Assessment of the cost and benefits (2) Legal framework (3) Project technical feasibility (4) Availability of suitable and adequate financial (5) Technical innovation and technology transfer (6)Favourable investment environment
Robert Kyei and Albert Chan	Osei-P.C.	2017	Empirical comparison of critical success factors for public-private partnerships in developing and developed countries A case of Ghana and Hong Kong.	In Ghana, PPP are very critical if CSFs are coming under socio-political and economic conditions, but in Hong Kong, the PPP is very critical if CSF are coming under the purview of organization and relationship of PPP. The favourable legal and regulatory framework is a very critical factor in both countries for PPP. Further, provision of government financial assistance, technology innovation and sharing, coordination and community participation have been identified less critical factors in both countries
Kang, S., Mulaphong, D., Hwang, E., and Chang, C. K.		2019	Public-private partnerships in developing countries: Factors for successful adoption and implementation.	1) political 2)legislative, 3)economic, 4)financial 5)management



In the case of power sector of Sri Lanka, political instability has been negatively affected to the adoption of PPP policy by increasing risk considerably. Accordingly, the cost of financing increased in Sri Lanka as private investors often charged risk premiums for their investment in public infrastructure projects (Appuhami et al., 2011). Also, some changes can be seen which have affected the power sector tremendously. For instance, power projects in Trincomalee, Sampur and West Coast were changed from the initial proposals due to political changes in the country. Trincomalee Power Company Ltd was established by CEB with NTPC Limited, India, to build and operate 500MW coal power plant at Sampur in Trincomalee. With change of government in 2015, Cabinet approval was granted to develop 50 MW solar power project at proposed Sampur coal power project site and a 500MW LNG power project in West Coast of Sri Lanka (Ceylon Electricity Board, 2017). In 1991, a PPP for 300MW coal-fired power plant at Trincomalee was formed and later when the new government came into power in 1994, it was cancelled (Appuhami et al., 2011).

As PPP coercive policy diffusion in a developing country, Sri Lanka as a case has identified, lack of state credibility, weak regulatory framework, political instability, underdeveloped capital market, lack of social support and limited scope as major critical factors in the macro environment of PPP (Appuhami et al., 2011).

Accordingly, macro factors that affect to attract PPP for development of power generation infrastructure in Sri Lanka could be identified as 1) Political Instability, 2) State Credibility on policies, 3) Regulatory and legal framework, 4) Transparent and efficient procurement process, 5) Financial Market, 6) Favorable investment environment and 7) a strong and good private consortium.

## Conclusion

The PPP plays a pivotal role in developing/emerging economies where huge investments are required to finance public infrastructure due to fiscal constraints. CEB requires investments to finance power generation infrastructure. This paper has investigated the challenges and most critical factors for a successful PPP through a literature review with the purpose of linking them to the case of CEB of Sri Lanka. It is evident that, to succeed a PPP in a country there are certain conditions required to be satisfied upfront (Wibowo & Alfen, 2014). In examining critical factors through literature to attract PPP, major factors related to power sector of Sri Lanka could be identified as; 1) Political Instability, 2) State Credibility on policies, 3) Regulatory and legal framework, 4) Transparent and efficient procurement process, 5) Financial Market, 6) Favorable investment environment and 7) a strong and good private consortium. It is identified that the most suitable PPP models for power sector are BOOT, DBOFM and BOO since projects are needed to be financed through PPP.

As limitations on the study, it could be mentioned that the literature searched only from selected on-line databases. Further, a significant biasness may be caused to the study by selecting narrative literature review.

These factors should be validated empirically in a future research in relation to the power sector of Sri Lanka in terms of going for a public private partnership to overcome the financial complications. The results and conclusion arrived from this study could be used by the policymakers of power sector of Sri Lanka when focusing on Public Private Investment ventures to develop power generation infrastructures in the sector.



## References

- Almarri, K., & Abuhijleh, B. (2017). A qualitative study for developing a framework for implementing public-private partnerships in developing countries. *Journal of Facilities Management*, 15(2), 170–189. <https://doi.org/10.1108/JFM-07-2016-0031>
- Ameyaw, C., & Alfen, H. W. (2017). Identifying risks and mitigation strategies in private sector participation (PSP) in power generation projects in Ghana. *Journal of Facilities Management*, 15(2), 153–169. <https://doi.org/10.1108/JFM-07-2016-0030>
- Appuhami, R., Perera, S., & Perera, H. (2011). Coercive policy diffusion in a developing country: The case of public-private partnerships in Sri Lanka. *Journal of Contemporary Asia*, 41(3), 431–451. <https://doi.org/10.1080/00472336.2011.582713>
- Asian Development Bank. (2016). *Project Loan Agreement-Wind Power Project*. ADB. <https://www.adb.org/projects/documents/sri-47037-005-lna>
- Asian Development Bank. (2017a). *Loan Agreement - Green power Efficiency Project*. ADB. <https://www.adb.org/projects/documents/sri-49345-002-lna>
- Asian Development Bank. (2017b). *Sustaining Development Through Public Private Partnership*. ADB Outlook 2017. <https://www.adb.org/sites/default/files/publication/365701/ado2017-update.pdf>
- Babatunde, S. O., Perera, S., Zhou, L., & Udejaja, C. (2016). Stakeholder perceptions on critical success factors for public-private partnership projects in Nigeria. *Built Environment Project and Asset Management*, 6(1), 74–91. <https://doi.org/10.1108/BEPAM-11-2014-0061>
- Bezancon X. (2000). The concessionaire contract: a framework, a process, a contract. In *Financing of Major Infrastructure and Public Service Projects: Public- Private Partnership*, (pp. 43–56). Presses ponts et chaussées, Champs-sur-Marne.
- Bovaird, T. (2004). Public-private partnerships: From contested concepts to prevalent practice. *International Review of Administrative Sciences*, 70(2), 199–215. <https://doi.org/10.1177/0020852304044250>
- Broadbent, J., & Laughlin, R. (2005). The Role of PFI in the UK Government's Modernisation Agenda. *Financial Accountability and Management*, 21(1), 75–97. <https://doi.org/10.1111/j.0267-4424.2005.00210.x>
- Broadbent, J., & Laughlin, R. (2003). Control and legitimation in government accountability processes: The private finance initiative in the UK. *Critical Perspectives on Accounting*, 14(1–2), 23–48. <https://doi.org/10.1006/cpac.2001.0525>
- Brown, T., & Potoski, M. (2006). Contracting for Management: Assessing Management Capacity Under Alternative Service Delivery Arrangements. *Policy Analysis and Management*, 25(2), 323–346.
- Ceylon Electricity Board. (2017). *Annual Report*.
- Ceylon Electricity Board. (2018a). *Long Term Generation Expansion Plan 2018-2037* (Issue June). [https://www.ceb.lk/front\\_img/img\\_reports/1532407706CEB\\_LONG\\_TERM\\_GENERATION\\_EXPANSION\\_PLAN\\_2018-2037.pdf](https://www.ceb.lk/front_img/img_reports/1532407706CEB_LONG_TERM_GENERATION_EXPANSION_PLAN_2018-2037.pdf)
- Ceylon Electricity Board. (2018b). *Statistical Digest 2018*.
- Chan, A. P. C., Lam, P. T. I., Chan, D. W. M., Cheung, E., & Ke, Y. (2010). Critical



success factors for PPPs in infrastructure developments: Chinese perspective. *Journal of Construction Engineering and Management*, 136(5), 484–494. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0000152](https://doi.org/10.1061/(ASCE)CO.1943-7862.0000152)

Chaurey, A., Krithika, P. R., Palit, D., Rakesh, S., & Sovacool, B. K. (2012). New partnerships and business models for facilitating energy access. *Energy Policy*, 47(SUPPL.1), 48–55. <https://doi.org/10.1016/j.enpol.2012.03.031>

Cheung, E., Chan, A. P. C., & Kajewski, S. (2010). The researcher's perspective on procuring public works projects. *Structural Survey*, 28(4), 300–313. <https://doi.org/10.1108/02630801011070993>

Cheung, E., Chan, A. P. C., & Kajewski, S. (2012). Factors contributing to successful public private partnership projects: Comparing Hong Kong with Australia and the United Kingdom. *Journal of Facilities Management*, 10(1), 45–58. <https://doi.org/10.1108/14725961211200397>

Chou, J. S., & Pramudawardhani, D. (2015). Cross-country comparisons of key drivers, critical success factors and risk allocation for public-private partnership projects. *International Journal of Project Management*, 33(5), 1136–1150. <https://doi.org/10.1016/j.ijproman.2014.12.003>

Dabarera, G. K. M., Perera, B. A. K. S., & Rodrigo, M. N. N. (2019). Suitability of public-private-partnership procurement method for road projects in Sri Lanka. *Built Environment Project and Asset Management*, 9(2), 199–213. <https://doi.org/10.1108/BEPAM-01-2018-0007>

Dobbin, F., Simmons, B., & Garrett, G. (2007). The Global Diffusion of Public Policies: Social Construction, Coercion,

Competition, or Learning? *Annual Review of Sociology*, 33(1), 449–472. <https://doi.org/10.1146/annurev.soc.33.090106.142507>

English, L. M., & Guthrie, J. (2003). Driving privately financed projects in Australia: What makes them tick? *Accounting, Auditing & Accountability Journal*, 16(3), 493–511. <https://doi.org/10.1108/09513570310482354>

European Commission. (2007). *The European Commission and Sri Lanka: Co-operation Strategy*. [http://eeas.europa.eu/archives/docs/sri\\_lanka/csp/07\\_13\\_en.pdf](http://eeas.europa.eu/archives/docs/sri_lanka/csp/07_13_en.pdf)

Froud Julie. (2003). The Private Finance Initiative: risk, uncertainty and the state. *Accounting, Organizations and Society*, 28, 567–589. <https://doi.org/10.1680/imuen.1995.28105>

Gendron, Y., & Cooper, D. J. (2001). State Auditing, Independence and New. *Accounting, Auditing & Accountability Journal*, 14(3), 278–310.

Glendinning R. (1988). The Concept of Value for Money. *International Journal of Public Sector Management*, 1(1), 42–50.

Grimsey, D., & Lewis, M. K. (2002). Evaluating the risks of public private partnerships for infrastructure projects. *International Journal of Project Management*, 20(2), 107–118. [https://doi.org/10.1016/S0263-7863\(00\)00040-5](https://doi.org/10.1016/S0263-7863(00)00040-5)

Henderson, J., & McGloin, E. (2004). North/South infrastructure development via cross-border PPP mechanisms. *International Journal of Public Sector Management*, 17(5), 389–413. <https://doi.org/10.1108/09513550410546589>

Hood, C. (1991). All Seasons? *Public Administration*, 69(1), 3–19. <http://dx.doi.org/10.1111/j.1467->



9299.1991.tb00779.x

Kang, S., Mulaphong, D., Hwang, E., & Chang, C. K. (2018). Public-private partnerships in developing countries: Factors for successful adoption and implementation. *International Journal of Public Sector Management*, 32(4), 334–351. <https://doi.org/10.1108/IJPSM-01-2018-0001>

Kang, S., Mulaphong, D., Hwang, E., & Chang, C. K. (2019). Public-private partnerships in developing countries: Factors for successful adoption and implementation. *International Journal of Public Sector Management*, 32(4), 334–351. <https://doi.org/10.1108/IJPSM-01-2018-0001>

Kavishe, N., & Chileshe, N. (2018). Critical success factors in public-private partnerships (PPPs) on affordable housing schemes delivery in Tanzania: A qualitative study. *Journal of Facilities Management*, 17(2), 188–207. <https://doi.org/10.1108/JFM-05-2018-0033>

Khadaroo, I. (2008). The actual evaluation of school PFI bids for value for money in the UK public sector. *Critical Perspectives on Accounting*, 19(8), 1321–1345. <https://doi.org/10.1016/j.cpa.2007.05.001>

Kim, Y., & Oh, K.-W. (2017). The Emerald Handbook of Public-Private Partnerships in Developing and Emerging Economies. In *The Emerald Handbook of Public-Private Partnerships in Developing and Emerging Economies* (pp. 537–557). Emerald. <https://doi.org/10.1108/9781787144934>

Klijn, E. H., & Teisman, G. R. (2003). Institutional and strategic barriers to public-private partnership: An analysis of Dutch cases. *Public Money and Management*, 23(3), 137–146. <https://doi.org/10.1111/1467-9302.00361>

Kovach, H., And, Y. L.-A. Report of the E. N. on D., & 2006, U. (2006). *World*

*Bank and IMF conditionality: a development injustice.*

Lattemann, C., Stieglitz, S., Kupke, S., & Schneider, A. M. (2009). Impact of PPPs to broadband diffusion in Europe. *Transforming Government: People, Process and Policy*, 3(4), 355–374. <https://doi.org/10.1108/17506160910997874>

Leigland, J. (2018). Public-private partnerships in developing countries: The emerging evidence-based critique. *World Bank Research Observer*, 33(1), 103–134. <https://doi.org/10.1093/wbro/lkx008>

Li, B., Akintoye, A., Edwards, P. J., & Hardcastle, C. (2005). Critical success factors for PPP/PFI projects in the UK construction industry. *Construction Management and Economics*, 23(5), 459–471. <https://doi.org/10.1080/01446190500041537>

Linder, S. H. (1999). Coming to terms with the Public-Private Partnership A Grammar of multiple meanings. *American Behavioral Scientist*, 43(01), 35–51. <https://doi.org/0803973233>

Liu, J., Love, P. E. D., Smith, J., Regan, M., & Davis, P. R. (2014). Life cycle critical success factors for public-private partnership infrastructure projects. *Journal of Management in Engineering*, 31(5), 1–7. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000307](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000307)

Ministry of Finance. (2015). *Budget Estimates 2015*. <http://www.treasury.gov.lk/web/guest/budget-estimates-2015>

Moro Visconti, R. (2014). Improving Value for Money in Italian Project Finance. *Managerial Finance*, 40(11), 1058–1077. <https://doi.org/10.1108/MF-07-2013-0171>

Mouraviev, N. & N. K. K. (2012). Conceptualising public-private



partnerships A critical appraisal of approaches to meanings and forms. *Society and Business Review*, 7(3), 260–276.

Namblard, C. (2000). In favor of a pragmatic approach towards public–private partnership. In *Financing Of Major Infrastructure And Public Service Projects & Public Private Partnerships* (pp. 17–31). Presses ponts et chaussées, Champs-sur-Marne, pp.

Nayak, B. S. (2019). Reconceptualising Public Private Partnerships (PPPs) in global public policy. *World Journal of Entrepreneurship, Management and Sustainable Development*, 15(3), 259–266. <https://doi.org/10.1108/WJEMSD-04-2018-0041>

Newberry, S., & Pallot, J. (2003). Fiscal (ir)responsibility: Privileging PPPs in New Zealand. *Accounting, Auditing & Accountability Journal*, 16(3), 467–492. <https://doi.org/10.1108/09513570310482318>

Nsasira, R., Basheka, B. C., & Oluka, P. N. (2013). Public Private Partnerships (PPPs) and Enhanced Service Delivery in Uganda: Implications from the Energy Sector. *International Journal of Business Administration*. <https://doi.org/10.5430/ijba.v4n3p48>

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. *International Journal of Project Management*, 33(6), 1335–1346. <https://doi.org/10.1016/j.ijproman.2015.02.008>

Osei-Kyei, R., & Chan, A. P. C. (2017). Empirical comparison of critical success factors for public-private partnerships in developing and developed countries A case of Ghana and Hong Kong. *Engineering, Construction and Architectural Management*, 24(6), 1222–1245. <https://doi.org/10.1108/ECAM-06-2016-0144>

2016-0144

Robert, M. V. (2014). Multidimensional principal-agent value for money in healthcare project financing. *Public Money and Management*, 34(4), 259–264. <https://doi.org/10.1080/09540962.2014.920198>

Savas E.S. (2000). *Privatisation and Public Private Partnership*. Privatisation and Public Private Partnership. [https://s3.amazonaws.com/academia.edu.documents/4617108/sem200601\\_md02\\_in.pdf?response-content-disposition=inline%253Bfilename%253DPrivatization\\_and\\_public-private\\_partner.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%252F20200129%25](https://s3.amazonaws.com/academia.edu.documents/4617108/sem200601_md02_in.pdf?response-content-disposition=inline%253Bfilename%253DPrivatization_and_public-private_partner.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%252F20200129%25)

Sri Lanka Electricity Act No. 20 2009, 0 (2009). <http://powermin.gov.lk/english/wp-content/uploads/2017/11/2009-Act-No.-20-Sri-Lanka-Electricity-Act-E.pdf>

Vaslavskiy, Y., & Vaslavskaya, I. (2019). Infrastructure Public–Private Partnership Projects: Budget Consolidation Policy in Russia and Government Expenditures’ Efficiency Increase. In *Modelling Economic Growth in Contemporary Russia* (pp. 203–232). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-78973-265-820191007>

Vreerland, J. R. (2003). *The IMF and Economic Development*. [https://www.researchgate.net/publication/227390178\\_The\\_IMF\\_and\\_Economic\\_Development](https://www.researchgate.net/publication/227390178_The_IMF_and_Economic_Development)

Wibowo, A., & Alfen, H. W. (2014). Identifying macro-environmental critical success factors and key areas for improvement to promote public-private partnerships in infrastructure: Indonesia’s perspective. *Engineering, Construction and Architectural Management*, 21(4), 383–402. <https://doi.org/10.1108/ECAM-06-2016-0144>



08-2013-0078

Zhao, Z. (2011). *Advancing Public Interest in Public-Private Partnership of State Highway Development*, Public Affairs, Minnesota Department of Transportation.

