



17th Annual
Engineering
Project
Organization
Conference

Working Paper Proceedings

The Collaborative Model in Practice - Identifying the Challenges

Jonas Olli Spohr; Åbo Akademi University, Finland

Kim Wikström; Åbo Akademi University, Finland

Kent Eriksson; Åbo Akademi University, Finland and KTH
Royal Institute of Technology, Sweden

Proceedings Editors

Paul Chinowsky, University of Colorado Boulder and John Taylor, Georgia Tech

EPOC 2019 | VAIL CO

© Copyright belongs
to the authors.
All rights reserved.

THE COLLABORATIVE MODEL IN PRACTICE - IDENTIFYING THE CHALLENGES

ABSTRACT

Infrastructure development projects often exceed budget and time and once ready, fail to perform to expectations (Flyvbjerg, 2017). To remedy this, Monk, Sharma and Sinclair (2017) advocate a collaborative investment model, where long-term institutional investors together with stakeholders develop infrastructure. In the collaborative model, mutual interest and trust among partners is essential for developing infrastructure investments. This paper sets out to identify first motivators and then challenges for application of the collaborative model. Our research method is participant observation of a Finnish public-private partnership infrastructure project.

Our results suggest that both the owners of infrastructure projects and institutional investors perceive that the collaborative model works well. The main motivators of the institutional investors are the possibility to leverage their resources with the help of other stakeholders, greater influence on the infrastructure investment, and greater influence on management of the infrastructure development. A challenge was that the institutional investors' internal governance structures made it difficult for them to invest resources in the collaborative model at its early stages. At the start of the infrastructure development, the risks were considered high because the collaborative may not generate a satisfactory flow of investment projects, and because the partners that invest resources in the beginning may do less good than 'free-riders' that join the project later. Another risk is that the investors in the collaboration have very similar knowhow and there may therefore not be benefits from combining their resources because they are overlapping rather than complementary. It is also noted that the potential project owners' and institutional investors have different, or conflicting goals in project work, which may lead to conflicts that are difficult to resolve.

KEYWORDS

Public-private partnerships, collaborative investing, infrastructure governance

INTRODUCTION

Public-private partnerships (PPPs) in infrastructure investments have been widely studied by academics, industry, and government (Levitt and Eriksson, 2016). Entrepreneurship combined with a meaningful bundling of the various phases needed to produce the infrastructure service should lead to better quality and lower costs to society (Monk et al., 2017). When the designers and constructors of the asset are made responsible for costs of running and maintaining it after completion they are

incentivized to deliver solutions maximizing the value of the investment during its life-time. As designers and constructors need to take the costs and benefits occurring in the operating phase into account it curbs their possible short sightedness and opportunism at the beginning of the project.

In many countries, the general opinion towards privatizations is negative due to among other things, poor accountability of projects and high media coverage of unsuccessful PPPs (Hall, 2015). Infrastructure PPPs are argued to be a costly for government because of the private sector profit-seeking and opportunism (Boardman et al., 2016). Transaction costs are high as the deals are often complicated with a one-off nature (Henisz et al., 2012). These possible shortcomings are surely accentuated because many governments and municipalities are not sufficiently prepared to procure infrastructure through PPPs, for instance in the hospital project Nya Karolinska Solna in Stockholm, Sweden (Sundström, 2018).

Infrastructure PPP collaborative investing is proposed as a way for pension funds and other long-term investors to mitigate opportunistic and short-term incentives (Monk et al., 2017). In this investment approach long-term investors build a network which should eventually lead to investment opportunities. This is a path to take for long-term infrastructure investors which do not have the scale to insource screening, analysis and management of direct infrastructure investments.¹ In the collaborative model the analysis and screening of investment opportunities are done as a collaborative effort between the long-term investors and is therefore a more efficient use of resources than if funds built infrastructure competence individually.

To work, long-term investors need to build networks extending also to others than their peers. One important stakeholder group that has to be convinced of the benefits letting private funds a bigger say in infrastructure investments is the government and its institutions directly overseeing or being responsible for maintaining and overseeing various infrastructure assets. High level government officials may find PPPs attractive as they see how the private partners can be incentivized to create value to the ecosystem. However, the persons directly involved in the government procurement processes may have a sceptical stance towards changing the current ways of working which has evolved over a long period of time.

All in all, despite much enthusiasm towards PPPs and their intuitively appealing entrepreneurial logic, as a possible solution to the big infrastructure challenge many countries face, their popularity is still low. In the OECD countries PPPs make up less than 5% of all infrastructure investments and in Europe the figure is little more than 5% (Jomo et al., 2016). In Europe, the monetary value of PPP projects initiated were around EUR 12 bn in 2016, which is roughly half compared to the level before the financial crisis, however it seems that PPPs are picking up in popularity again (Iossa and Saussier, 2018).

Our research is motivated by the issues identified above, most notably; society is likely to benefit if private funds are offered more upside in infrastructure

¹ With big scale and resources the pension funds could set up in-house investments teams to organize the direct investments into infrastructure such as OMERS has done in Canada. OMERS is the pension fund of Ontario Municipal Employees Retirement System and has become one of the biggest infrastructure investors worldwide.

development as long as all stakeholders work towards increasing the value of the project in the long-term and short-sighted opportunism is capped. We believe that the collaborative investing framework advocated by Monk et al. (2017) is movement in the right direction. The aim of this research is to investigate how the ideas of collaborative investing are perceived by long-term investors and stakeholders responsible for providing infrastructure services to the society and to identify challenges that have to be overcome to get the collaborative model working on a specific market.

The research is done in Finland which is a country with relatively little experience in alternative financing and procurement options of infrastructure. To date, Finland has heavily relied on traditional public sector procurement of infrastructure, during the last 25 years only four roads have been procured through alternative procurement models (PPPs). In line with most other OECD countries, Finland has pressure to ramp up investments in its infrastructure and is, of course, motivated to maximize the value of these investments. As a small country with relatively homogenic normative and cognitive structures among its population as well as effective regulative institutions it offers a good ground for the collaborative and relational models to work (Henisz et al., 2012).

The research was done through one-on-one interviews with institutional investors and project owners (government officials) as well as meetings and seminars on which both of these groups were present. The results indicate that the collaborative model was very well perceived by both stakeholder groups. Institutional investors welcomed the collaborative model as a way to create an alternative channel to invest in infrastructure assets alongside the fund model. They also saw value of likely having better control of the investments, including a bigger influence on to what kind of projects their funds were invested in. On the owner -side, the higher involvement of private investors in the projects were assumed to help in determining the value of the investments and hopefully also increase this value through innovative solutions as well as create systemic benefits. When proceeding to engage the two stakeholder groups to discussions with each other some challenges emerged. As the institutional investors focused on issues they were used to get from the intermediary fund manager, such as specific estimates related to risk and return, the government officials focused more on the benefit for society. At start both stakeholders focused on what the other party would bring to the table that would directly benefit the stakeholder. The institutional investors were concerned that if the collaborative model one day would work, what were the guarantees that they would benefit more out of it than some free-rider coming along just at the end.

In the next section we go through why PPPs intuitively make sense and reasons why they not always perform as expected. In section three we present how this research was done and report the insights we have received. We summarize our findings in the concluding section.

THE CHALLENGE OF GETTING THE MOST OUT OF PPPS

Consultants promote PPPs as advantageous, and state that they are gaining in popularity in the industry (McKinsey & Company). Prominent institutions like the World Bank and European Investment Bank provide studies of PPPs in various geographical markets and industries and are generally in favor of the PPP model. At first glance, it is relatively easy to buy the argument that private sector involvement in innovation, design, construction and management of infrastructure assets will result in better cost efficiency as well as in higher quality infrastructure assets.

Although PPPs have much going in their favour, it is evident that the success of PPPs is contested. One reason behind this debate is connected to how “success” of an infrastructure project is defined. The performance measurement is often connected to the angle of the estimation, what is valued and what is not. Romero (2015) illustrates the importance of the point of departure of the assessment with a hospital PPP in Lesotho; the project was criticized in one study because of its high public cost, whereas another study found it a success because of better treatment of patients. Success from the society’s (owner’s) point of view depend on what is valued and how this value is measured. Not making it easier, the variables used, such as the safety of a train, or the economic benefit an infrastructure project gives to a region, may only be possible to measure accurately over long time-intervals and even then, it may be difficult to determine if the noted development is a consequence of the project or not (Ansar et al., 2016). What is aimed for and how success is measured should be the tasks of the project owner (Winch and Leiringer, 2016), which in regard of infrastructure projects often means the state or municipalities.

On the other hand, success from private investors’ point of view is usually the return they get on their invested funds. Following this, not surprisingly, the innovativeness and drive of the private sector have been showed to lead to cost and time savings but less often, if at all, into enhancing value of the investments through innovative design and new services (Boardman et al., 2016, Himmel and Siemiatycki, 2017). Much research sees the early stages (shaping) of infrastructure projects (Flyvbjerg, 2017, Miller et al., 2017) and their governance structures (Henisz et al., 2012, Winch and Leiringer, 2016, Levitt and Eriksson, 2016) as very important determinants of the success of the projects. Successfully writing the detailed PPP-contract to produce the highest possible amount of lifetime value at the time the contract is signed is a problem and increases the governance challenge in the later stages (Demirel et al., 2017). After the shaping process, the rigidity built in the contract may start to hurt the project. The push for fixed-priced contracts in environments with high uncertainty freezes design at an early stage limiting innovation (Davies et al., 2017).

Relational contracting and governance can enhance the performance of infrastructure projects and curb short sighted opportunism (Henisz et al., 2012, Levitt and Eriksson, 2016, Davies et al., 2017, In et al., 2017). Previous studies have called for further empirical research around these ideas (e.g. Levitt and Eriksson, 2016) and on other infrastructure markets than Australia (Nowacki et al., 2016). This is something we set out to do in this paper.

In PPPs, the private sector entrepreneurship arguably leads to efficiency in construction processes (Siemiatycki and Farooqi, 2012, Ontario, 2015). In 2007 Allen Consulting Group compared 33 PPPs to 21 traditional procurement projects in Australia and find that PPPs are completed slightly ahead of schedule whereas the traditional projects have average time overruns of 23.5%. The time overruns are especially severe for larger projects. The consultants make similar conclusions for costs; PPPs are completed close to budgeted costs whereas traditional procurement tend to have clear cost overruns. When comparing 28 value for money (VfM) analyses conducted by Infrastructure Ontario, Siemiatycki and Farooqi (2012) find that on average PPPs have an (ex ante) cost advantage of about 10% compared to the traditional procurement options.

These results need to be treated with some caution. Studies showing that PPPs provide VfM, for example, tend to be conducted by governments' PPP agencies which are mandated to promote PPPs (Boardman et al., 2016). Boardman et al. (2016) also argue that the findings suggesting PPPs are better on time and budget is due to the fact PPPs require more intensive planning and negotiation before start. On the other hand, costs of greenfield PPPs can be inflated due to financiers' requirement that the projects are delivered as turnkey projects (Jomo et al., 2016). On the whole, we think that the evidence points towards PPPs having less cost and time overruns compared to traditionally procured projects. These advantages, however, come at higher financing and transaction costs (e.g. Siemiatycki and Farooqi, 2012, Boardman et al. 2016, Levitt and Eriksson, 2016).

To shift the advantage clearly in the favour of PPPs it is crucial to get the entrepreneurship and innovativeness of the private partners to add value to the investment and not only to reduce costs. Based on the research to date, it seems that PPPs can improve in this regard (Himmel and Siemiatycki, 2017). For the value add of the private sector's innovativeness to be realized, it is important that changes and improvements to the project can be made continuously during the project starting from the shaping phase. To achieve this continuous improvement, collaborative investing (Monk et al., 2017), relational contracting (Henisz et al., 2012) together with good performance metrics throughout the various phases of the project are surely important.

How well the interests of the project owner are cared for is dependent on the motives of the main investors. Institutional investors often use the fund model to get exposure to infrastructure. In this model a fund manager seeks infrastructure assets to buy or develop from scratch and invites pension funds and other institutional investors to invest in the infrastructure fund which is usually closed-end with a maturity date of 10-15 years. The fund managers are usually independent asset management firms or fund management arms of large banks and the fee structure is similar to private equity, i.e. a combination of a periodical asset management fee and a performance fee. This fee structure combined with relatively short time-spans and the amounts of money involved, easily diverts the fund managers' motives to maximize the profit for the fund on the expense of the society where the infrastructure asset is situated. This problem is accentuated if the fund manager is not expected to work with the project stakeholders on other projects so no goodwill needs to be saved for the future (Henisz et al, 2012).

REALIZING THE BENEFITS OF THE COLLABORATIVE MODEL

We set out to investigate the possibilities and obstacles to get the collaborative model proposed by Monk et al. (2017) to work. We do this in an environment where we at the start can find many stakeholders expressing interest in the model. The Finnish government and two major Finnish pension funds agreed to take part in this project. The research is based on active participation in meetings between the owner of infrastructure projects, i.e. the government, its agencies and municipalities, and the likely private partners. To get more information of the specific drivers and motives of the stakeholders, we identified three actual cases which at the start all had true potential to become investment projects.

Our research method is clinical. Clinical research focuses on solving problems that are relevant for practitioners (Coghlan, 2009). The method has been successfully applied on unstructured problems with wide and vague boundaries including many stakeholders (Eriksson et al., 2019). We set out to analyze and solve the research problem together with the practitioners. In our setting, the research problem is how to best implement the collaborative model for infrastructure investing and the practitioners are the institutional investors and project owners (the state and municipalities). Our clinical research focused on three levels; first on interviews with the stakeholders, secondly on observation at seminars and, thirdly, on taking an active role in meetings keeping the pace going towards the collaborative model.

The ultimate goal is to set up a long-term collaborative structure being able to handle a continuous deal flow which have been identified to be advantageous in previous research (e.g. Ehlers, 2014). Our empirical conclusions are based on information gathered from interviews, meetings, and seminars and their amounts are showed in table 1.

Table 1. The number of times the stakeholder groups were engaged in interviews, meetings and seminars during this research

	Institutional investors	Government officials	Potential project owners
Interviews	9	3	2
Meetings	6	6	2
Seminars	2	2	1
Total	17	11	5

Interviews are occasions where only representatives from one stakeholder were present, meetings included one or two representatives from several stakeholders and seminars were gatherings including several representatives of all the three identified stakeholder groups. The seminars were arranged by the government. All in all, the results are based on statements and comments by 24 persons of whom 9 were government officials, 11 were employed by institutional investors and 5 were

employed by owners of infrastructure projects (i.e. municipality or state authority directly responsible of infrastructure asset procurement and maintenance).

The idea of having separate one-on-one meetings with the stakeholders was to secure that the stakeholders' statements were not affected by the presence of possible future partners. The meetings were concentrated on discussing the three possible investment cases. The idea to discuss actual cases was to observe what the participants focused on when reality became closer. The data collection period has extended over a period of close to two years and counting (May 2017 - February 2019) and is showed in figure 1.

Figure 1. The data collection under the process model in Monk et al. (2017)



We draw insights in three areas which have become visible during the process of gathering the empirical material, which we present chronologically; (1) the motives of the three different stakeholders in taking part in developing the collaborative model, (2) the challenges the stakeholders see in this model, and (3) the value-add propositions the stakeholders have on the collaborative model going further.

Stakeholders' motives for taking part in developing the collaborative model

In the first round of interviews with institutional investors we met 5 institutions, all with a considerable allocation into infrastructure assets, and with a balance sheet average (median) of EUR 40 bn (EUR 43 bn) in the end of 2017. The 4 pension funds with equity exposure to infrastructure all mainly used the fund model and had very limited, if any, direct investments into the asset class, the one institution providing debt financing to infrastructure ventures did this directly. Apart for the infrastructure

lender, the pension funds all had exposures to infrastructure clearly below 10% of their investments and all said they targeted to increase this share. The number of persons directly working on infrastructure investments ranged from 1-2 persons in the pension funds. Our interviews were done mostly with the employees directly managing the infrastructure investments but included also interviews with senior management of the pension funds.

The limited personnel resources is the main reason the pension funds invest in infrastructure via infrastructure funds operated through external asset managers. Two of the pension funds mentioned that they had elaborated if their infrastructure team should be increased but had decided against it as it would be too expensive to build up a team. The fixed expenses of having an own infrastructure team in place is estimated to be too high compared to the expected deal flow.

At the current state, the major decision driver whether to invest in an infrastructure project offered is based on the team being responsible for the infrastructure fund and their resources and motivations. The decision to invest or not can be divided into three groups based on attributes related to manager, the fund and the assets the fund is targeting as summarized in table 2.

Table 2. The decision to invest or not is dependent on three groups of factors

Manager/team	Fund	Asset
Track record	Type (closed end/open end)	Core, Core+ or value add
Resources	Strategy (yield/end payoff)	Geographical spread
Motivation	Age and maturity	Timely spread
	Fee structure and level	Risk correlation to portfolio

Based on the interviews, the fee structure and -level appear not to be very important decision drivers for the investment. The reasons to go for the collaborative model are more related to avoiding problems and risks seen in the fund management model and the possibility to more directly influence the infrastructure investments. The fact that the fund manager has various ways to extract rents from the investors putting money into the fund (i.e. limited partners) is well recognized by the pension funds.

The pension funds explicitly expressed concerns that, in the case of headwinds, the fund manager loses interest in actively managing the fund because it is unlikely that the threshold to obtain a performance fee will be reached. The fund manager shrieks on the effort side and only collects the management fee and keeps the investments tied to the fund as long as possible. The investors also noted the risk that the fund manager opportunistically increases the risks of the fund, and through this increases the chances for higher performance fees whereas the downside is mostly carried by the limited partners.

The ambition to have a bigger say in the way the investments are managed is not only related to the possibility to control any opportunism by the fund manager. The

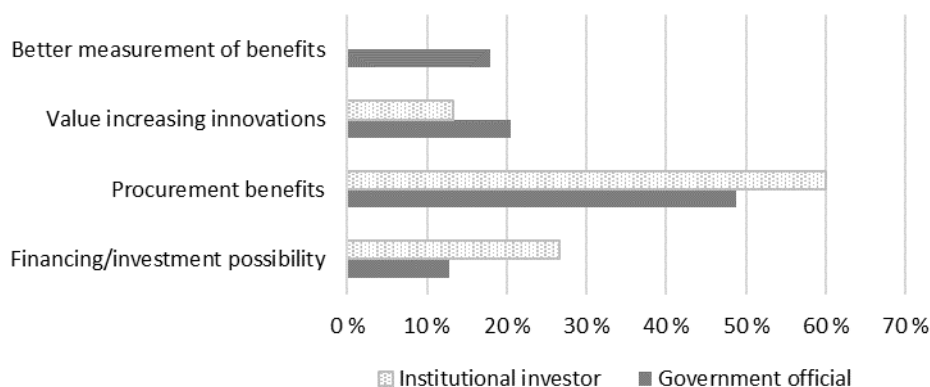
pension funds expressed interest in promoting investments with specific attributes. Pension funds would like to channel more funds to their domestic market but the international asset managers mostly offer funds elsewhere. In addition to the geographical and timing concerns, the collaborative model would likely also give the pension funds more say in which specific assets their money is invested in and how these are managed. Sustainability and social responsibility issues emerged as important. In the interviews, two pension funds had concerns about the fund managers operating in ways that is against the pension funds' internal policies such as channeling profits to tax heavens.

The takeaways from the initial seminars on the benefits of collaboration

The two seminars which both had the agenda of discussing how infrastructure investments could be increased and improved were organized by the government of Finland and hosted by the minister of transport and communications of Finland. The first seminar had 14 participants including government officials and senior management of the major Finnish pension funds and other financial institutions. The follow up seminar was an event of about 50 participants including high ranking government officials from the Nordic countries, institutional investors from Finland, Sweden and Norway and potential infrastructure project owners.

To get a picture of what the stakeholders expect to be the positives of collaboration we first identified the major areas which seemed reoccur in the statements (or speeches) made during the seminars. When counting all statements made during the seminars (48 in all including also welcome and thank you notes) we identified 26 statements which highlighted at least one of the broad areas shown in Figure 2.

Figure 2. The four areas identified as expected positive outcome and the amount of times these were mentioned by the two stakeholder groups (in % of their total number of statements)



Based on the seminars, the government officials (owners) identified the better measurement of the benefits of infrastructure projects as one important motive for collaboration. The thinking is that when there are more stakeholders present having an investment interest in the infrastructure asset, it is likely that the benefits of the development will be better estimated and calculated. Mostly this was seen to occur in the shaping stage of the project, e.g. in form of better cost-benefit and value-for-money analyses highlighting systemic benefits. It should be noted that this positive attribute is entirely concentrated to the owner-side, this was not once mentioned by the investors. On the other hand, the institutional investors appeared to be confident that their co-operation could improve the procurement of the asset, resulting in a more valuable asset and/or better price. Related to this, the owner-side acknowledged that collaboration could improve the innovativeness in infrastructure projects. To provide financing for the owners and investment possibilities for the investors were seen as important results of the collaborative structure, especially from the investors point of view.

Going more specific into the details after the introductory phase

After the seminars, and the stakeholders initial expectations for the process going forward, the work continued with meetings between the stakeholders. In the meetings the first signs of differences in expectations on what the collaborative model should bring to the owners and to the institutional investors became clearer. The owners concentrated much on the challenge how to improve the estimation and measurement of benefits of an infrastructure project whereas the institutional investors were more focused on securing a possible deal flow and, at an early stage, started to discuss return levels.

Several times the owner representative had comments like “[h]aving the right incentives in place [for the PPP] is very important for the government” (November 14, 2018) or “[w]e are especially interested in how to incorporate incentives into the contracts which would increase the benefit for society [of these infrastructure investments]” (December 14, 2018).² To get possible benefits to realize, the owners supported the idea that they would subsidize the projects. Nevertheless, the owners also stated that it would be very desirable if part of the costs would be paid by the ones benefitting from the infrastructure project. To achieve this, it is crucial that these benefits could be identified and measured correctly.

Regarding the financing, government officials stated that the private financing could possibly help to make the financing of the investments less dependent on budget financing. The more flexible financing would improve chances to plan and build large projects in one stretch instead of spreading them out on several smaller sub-projects denting efficiency. Otherwise it seemed that the government did not value the private financing very high as it was assumed to be costly.

² All citations in this section are freely translated from Finnish.

In the discussions, it soon became clear, that the institutional investors were very focused on getting a monetary return of the collaboration. Evidence that trust between the partners was not yet totally obtained was received repeatedly. The pension funds expressed their concerns of ending up as runners-up, putting effort in preparing investment cases for somebody else. This is a viable concern as no party can be guaranteed the contract without a tendering process.

Maybe due to the lacking trust that the government actually is able to set up the collaborative model with a continuous deal flow, the institutional investors were both very interested to discuss deal breakers. In the very first meeting (on November 14, 2018) discussing the investment cases, the other pension fund representative said that they expected to get a yearly return on equity put in any infrastructure SPV to be in the range 8% - 10% p.a. This was further evidenced when going through calculations for the investment projects in a later meeting (January 30, 2019), where the investor specifically stated that the internal rate of return of 5.2% for a road project in which the SPV had both construction and operating risk was too low. In connection to this, the investors were also interested to discuss the capital structure of the SPV in this very early stage.

To sum it up, although the partners were interested in having the collaborative model for infrastructure investing in place and at start they had a largely mutual understanding on what the purpose of the collaborative should be, we identified some challenges in the process. Maybe due to some doubt that the model will actually emerge and provide the partners with infrastructure projects to work with, it is important to find partners who are willing to take the risk and invest time and effort into the project. It also became clear that the slight differences regarding the expectations of the benefits of the collaborative model accentuated during the process.

CONCLUSIONS

A longer-term view and having the right kind of partners with the right incentives may improve the success of infrastructure projects. We think that the collaborative investing model advocated by Monk et al. (2017) may be a good way in the right direction. In this paper we identified a clear demand for the collaborative model on a market where institutional investors have mainly invested in infrastructure assets indirectly. However, we also evidenced some challenges to deal with before the model will be up and working.

At start, the owner (government and its institutions) expected the model to improve on how the (often systemic) benefits of infrastructure investments are estimated and to increase innovativeness of the projects. The institutional investors expected the collaborative model to bring them an increased deal-flow. The pension funds also looked forward of having higher influence on projects, which, among other things, could lead to better sustainability. Building on these good motives we started out on the journey of developing the relationships and building trust according to the model. In doing this, some challenges were detected. The stakeholders participating soon started to focus on the quite specific payoffs they could expect from the collaborative. We also noted the importance of having partners in the collaborative

with different kinds of knowhow and that they are committed in the model for the long-term.

REFERENCES

Ansar, A., Flyvbjerg, B., Budzier, A., and Lunn, D., (2016). “Does infrastructure investment lead to economic growth or economic fragility? Evidence from China”, *Oxford Review of Economic Policy*, 32, 360-390.

Boardman, A., Siemiatycki, M., and Vining, A., (2016). “The theory and evidence concerning public-private partnerships in Canada and elsewhere”, *SPP Research Papers*, 9, 1-31.

Coghlan, D. (2009). “Toward a philosophy of clinical inquiry/research”, *The Journal of Applied Behavioral Science*, 45, 106–121.

Davies, A, Dodgson, M, Gann, D., and MacAulay, S., (2017). ”Five rules for managing large, complex projects”, *MIT Sloan Management Review*, 59, 73-77.

Demirel, H. Ç., Leerdentse, W., Volker, L., and Hertogh, M., (2017). “Flexibility in PPP contracts – Dealing with potential change in the pre-contract phase of a construction project”, *Construction Management and Economics*, 35, 196-206.

Ehlers, T., (2014). “Understanding the challenges for infrastructure finance”, BIS working papers 454, 1-23.

Eriksson, K., Wikström, K., Hällström, M., and Levitt, R., (2019). ”Projects in the business ecosystem: The case of short sea shipping and logistics”, *Project Management Journal*, 50, 195-207.

Flyvbjerg, B., (ed.), (2017). “The Oxford handbook of megaproject management”, Oxford University Press

Hall, D., (2015). “Why public-private partnerships don’t work – The many advantages of the public alternative”, *Public Services International*, University of Greenwich, 1-55.

Henisz, W., Levitt, R., and Scott, R., (2012). "Toward a unified theory of project governance: Economic, sociological and psychological supports for relational contracting", *Engineering Project Organization Journal*, 2, 37-55.

Himmel, M., and Siemiatycki, M., (2017). "Infrastructure public-private partnerships as drivers of innovation? Lessons from Ontario, Canada", *Environment and Planning C: Politics and Space*, 35, 746-764.

In, S. Y., Sharma, R., and Monk, A., (2017). "Applying relational governance to private investment in public infrastructure", Stanford University, working paper, 1-25.

Iossa, E., and Saussier, S., (2018). "Public private partnerships in Europe for building and managing public infrastructures: An economic perspective", *Annals of Public and Cooperative Economics*, 89, 25-48

Jomo, K.S., Chowdhury, A., Sharma, K., and Platz, D., (2016). "Public-private partnerships and the 2030 agenda for sustainable development: Fit for purpose?" DESA working paper 148, 1-28.

Levitt, R. E., and Eriksson, K., (2016). "Developing a governance model for PPP infrastructure service delivery based on lessons from Eastern Australia", *Journal of Organization Design*, 5, 1-8

Miller, R, Lessard, D., and Sakhrani, V., (2017). "Megaprojects as games of innovations", Oxford University Press

Monk, A., Sharma, R., and Sinclair, D., (2017). "Reframing finance –New models of long-term investment management", Stanford University Press

Nowacki, C., Levitt, R., and Monk, A., (2016). "Innovative financing and governance structures to solve the greenfield infrastructure gap: A case study of New South Wales, Australia", Stanford Global Projects Center, working paper, 1-17.

Ontario, (2015). "Assessing value for money -An updated guide to Infrastructure Ontario's methodology", Queen's Printer for Ontario

Romero, M.J., (2015). "What lies beneath? – A critical assessment of PPPs and their impact on sustainable development", a publication by Eurodad, European Network on Debt and Development, 1-35.

Siemiatycki, M., and Farooqi, N., (2012). Value for money and risk in public-private partnerships, *Journal of the American Planning association*, 78, 286-299.

Sundström, G., (2018). “Framtidens universitetssjukhus – Beslut om Nya Karolinska Solna, progress report 23 February, 2018, University of Stockholm, 1-30.

Winch, G., and Leiringer, R., (2016). “Owner project capabilities for infrastructure development: A review and development of the “Strong Owner” concept”, *International Journal of Project Management*, 34, 271-281.