

The influence of trust on innovative outcomes in Public-Private Partnerships

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ABSTRACT Governments worldwide turn to PPPs as a vehicle to enhance investments in social policy, infrastructure and urban regeneration. Involving the private sector in the provision of public services is expected to reduce the pressure on government budgets and result in efficiency and quality gains. In general, three outcome related improvements are ascribed to PPP: the same outcomes for lower costs (more efficiency), better outcomes for the same costs (added value) and third, more innovative outcomes (Osborne 2000; Kwak et al. 2009 Flyvbjerg et al. 2003). PPP is often presented as a new, innovative way of governance resulting in more innovative outcomes. But much is still unknown about the exact value of PPP as a new governance form. Realizing the promised benefits in practice turns out to be difficult; research shows at least mixed results (NAO 2000; Koppenjan 2008; Hodge et al. 2010).

In this article we specifically look into PPP as an generator for innovative outcomes. We pose the question how, and under what conditions public private partnerships can lead to innovation. Hereby, inspired by the literature on strategic alliances and on governance and relational contraction, we focus on the role of trust. Trust is regularly mentioned as an important asset for achieving innovation (Sako 1998; Parker & Vaidya 2001; Nooteboom 2002; Provan 2009; Klijn 2010). We build on this and explore the role of trust between the public and private partners and the role of trust in the wider network around the PPP project. From the literature, we derive different, interrelated mechanisms for the positive influence of trust on innovative outcomes. In innovation processes, trust facilitates cooperation, solidifies cooperation and enhances the performance of a cooperation (Edelenbos & Klijn 2007).

Building on earlier research on trust in governance networks (Klijn et al. 2010) we use a survey among respondents involved in PPP projects in the Netherlands (March 2014) to test our hypotheses. The preliminary results presented in this paper show that both trust between the partners in a PPP and trust between the actors in the wider network around the PPP have a positive effect on the innovative outcomes and overall performance of the PPP.

1. Introduction: PPP as innovation in structure and innovation in outcomes

Public Private Partnerships (PPPs) have become a more prominent policy instruments in many Western European countries, and also in Asia and the US (Hodge et al. 2010). Governments increasingly refer to PPP as an important instrument to modernize public policy. Public private partnerships can be described as a “more or less sustainable cooperation between public and private actors in which joint products and/or services are developed and in which risks, costs and profits are shared” (Klijn & Teisman, 2003). Private parties are involved earlier in the decision making process and contribute more intensively than is the case in more traditional client-supplier or principal-agent relationships. The bundling of expertise, knowledge and interests and the sharing of risks and responsibilities should produce better value for money (Ghobadian et al. 2004; Hodge & Greve 2010).

Policy makers and researchers share the idea that an intensive cooperation between public and private parties adds value by producing better and more efficient policy outcomes. The assumption can be found in a vast majority of government documents (Kenniscentrum 2002; NAO 2002; ODPM 2002, 2004; Algemene Rekenkamer 2013) as well as in the academic literature (Osborne 2000; Savas 2000; Klijn & Teisman 2003; Hodge & Greve 2010). In general, these assumed outcome related improvements can take several forms. The literature generally distinguishes more efficiency and added value as possible outcome improvements of PPP (Kenniscentrum 2002).

More efficiency means securing the same outcomes for lower costs. Some authors state that public private partnerships and the co-operation they engender result in considerable efficiency gains (McQuaid 2000; Savas 2000). Examples can be found in building projects where decisions can be made faster. The backside however is that more intense co-operation implies greater transaction costs, which should not exceed the possible revenues (Williamson 1996).

Added value means greater outcomes for the same costs. Public and private actors could add value to each other's performance because their efforts enhance the value of the product or service that is being delivered. The classic example is that of a co-operative effort of drafting a master plan for a newly built neighborhood. It gives coherence to the total project, and thus raises the value of the individual dwellings.

Besides efficiency gains and added value a third category of outcome related improvements of PPP can be add: more innovative outcomes, or solutions that have not been achieved before (Borys & Jemison 1989; Faulkner 1995; Hodge & Greve 2005). An advantage of public private partnerships could be that actors, by harnessing each other's knowledge and expertise, are able to realize better, more innovative solutions (Parker & Vaidia 2001; Huxham & Vangen 2005). The commitment and interaction of multiple players leads to synergy, it stimulates new alternatives that otherwise would not have been considered (Agranoff & McGuire 2001: 321).

PPP can be presented as an innovation in two ways. The structure as well as the supposed outcomes of the partnership are often presented as (an) innovation. PPP is framed as a new, innovative way of governance resulting in more innovative outcomes. This innovation in structure and innovation in outcomes can take different forms, depending on the type of PPP. Often a distinction is made between PPP concessions or contracts and PPP as an organisational cooperation project or partnership (Kenniscentrum 2002; Sullivan & Skelcher 2002; Hodge & Greve 2005). Both PPP types have their own innovative structure and expected innovative outcomes.

Two types of PPP: different innovations

In a *PPP concession* the main components of the value chain of an investment project are integrated and then put out to tender via a *contract*. The design, construction, financing and possibly (commercial) operation of an infrastructure project (such as a road or a building) are integrated into one contract, a so called DFMO-contract. PPP concessions and the more inclusive long term contracts can be seen as an innovative form of governance. Added value lies in the lower costs of coordination between the various components.

This efficiency gain is however not sufficient to attract private or public sector interest. Their interest mainly arises from the opportunity to create substantive added value. In the Private Finance Initiative (PFI) tendering system used in the UK for the road construction the finance, construction and maintenance are contracted out to private consortia for a period of 30 years. By using more sustainable building materials the consortium can save on future maintenance (see

Klijn et al 2007), particularly as the payments system rewards the ‘availability’ of roads (NAO 2003).

The opportunity for a long-term involvement in a project provides both the potential for devising new solutions to problems and protects a risk aversion to untested approaches. Innovations typically demand a significant investment and the return or payback period of these investments is relatively long. But when long-term involvement in a project is secured, choosing for innovative solutions can be ‘worth it’. Where innovation is likely to deliver benefits in a PPP concession there is a positive incentive to develop more innovative ideas.

In a PPP as *organisational cooperation project*, different projects are integrated to achieve added value. In this case, PPP is a *partnership*. This type of cooperation is usually found in urban reconstruction and regeneration projects where measures to strengthen transport are combined with measures aimed at improving the living environment and/or housing and measures aimed at strengthening the economy. In this method of cooperation, added value is generated by combining substantive measures and projects which then reinforce each other. This also makes it possible to achieve a financial trade-off between profitable and less profitable but socially interesting components. This type of PPP can be organized in tight organizations like Urban Renewal Companies (Kort & Klijn 2011) where partners install a joint organizations that performs the tasks, or a more loosely coupled partnership (which could be termed as a more network like partnership) (Klijn 2010). In the first type of PPP the governance innovation lies in the form of the contract. In this second type of PPP the governance innovation is the more intensive cooperation and joint co-production of public and private partners.

Coordination is achieved in a very different way in the two types of PPP. In the PPP concessions there is only limited co-production between public and private actors. It primarily consists of interaction between public and private actors at the start of a PPP project regarding the basic principles of the project to be contracted out. After intense interactions *in theory* the public partner steps back in the role of monitor after the contract is achieved. The precondition for success for this type of approach to co-production is that the public party should be able to specify the problem- though not the solution, which would be the case in a ‘traditional’

contracting arrangement- and that clear rules for the tendering process (and the monitoring) should exist.

In the second type of public private co-production, organisational cooperation constructions or partnerships, involves in general a more intensive interaction because the various project components which are often the domain of diverse private and public actors, have to be coordinated. Moreover, it is more difficult to clearly delineate in advance the content and ambitions of the cooperation. The precondition for success for this type of approach, according to the PPP literature, is either choosing the right form of partnership or an intensive managerial effort to constantly connect and organize the partners strategies and perform stakeholder management (Kort & Klijn 2011).

The structure as well as the intended outcomes of both types of PPP are presented as innovative, but this is not uncontested. If one looks at the available literature on PPP, policy documents as well as scientific literature, one can discern different views on the value of PPP as new governance form and on the question if and how public private partnerships lead to innovative outcomes. It is unclear how PPP can contribute to innovation, what mechanisms are at work and which variables are of importance. In this paper we focus on the importance of trust within partnerships and the influence of trust on good results in general and innovative results in particular.

The structure of this paper

In the next section, we start with a theoretical elaboration on the nature and importance of trust in PPP. We explain what trust is and why trust is an indispensable concept when studying PPP. We present several mechanisms, derived from the literature, that connect trust to innovative outcomes. We end this section with the formulation of six hypotheses. In the third section, we present our data and operationalization and the possible limitations of these. The last section holds the results of our preliminary analysis, we conclude with a reflection on our hypotheses.

2. Why trust? A theoretical model on the importance of trust in PPP

Some authors in neo-institutionalist theory, which is one of the most important theoretical underpinning of PPP, argue that trust is not relevant for contracts and economic transactions (Williamson 1996). But a wide and prominent part of the literature on contractual relations does emphasize the importance of trust in alliances and partnerships.

What is trust?

Trust is defined in many ways in the literature. To trust a person is to expect that the other will refrain from opportunistic behaviour, even if the opportunity for it arises (Deakin & Michie 1997; Deakin & Wilkinson, 1998). The trusting actor assumes that the other will take her interests into account, although she can never be certain about it (Rousseau et al. 1998; Nooteboom 2002). Actors who trust others are taking a risk, they are allowing themselves to be vulnerable to opportunistic behaviour. A conscious choice has to be made to take that risk, and this is done in the belief that the other party can be trusted.

Interlinked with the previous argument, is the idea that trust only arises in cases of interdependency. If an actor is fully autonomous and not at all dependent on another actor, there is no vulnerability. The other's behaviour does not pose a risk and therefore there is no real need for trust. We use the following working definition of trust: 'Trust refers to the actors' more or less stable, positive perception of the intentions of other of other actors, that is, the perception that other actors will refrain from opportunistic behaviour' (Edelenbos & Klijn 2007).

As the definition highlights, trust is a perception about intentions. It can be distinguished from institutional characteristics such as rules and norms, which often serve to facilitate trustworthy behaviours. Trust can also be distinguished from action. However, trust and actions are mutually interrelated. Trust develops in action, or more precise, in interaction between actors (Eshuis 2006). Trust develops for instance when actors communicate openly about her intentions, when they hand over particular responsibilities, or work together on a project without misusing each other's vulnerabilities. Trust is thus active trust in the sense that it needs to be developed and maintained actively through interaction. Without interaction trust will easily diminish (Giddens 1994; Nooteboom 2002).

Why is trust useful in (studying) PPP?

Most authors on trust agree that trust is inextricably related to risk. Without risk, the notion of trust is simply unnecessary (Rousseau et al. 1998; Lyons & Metha 1997; Lane & Bachmann 1998; Nooteboom 2002). In contractual relations, partnerships or other cooperative relations involving private and public actors, the actors are confronted with various risks. A great risk is that the other actor 'walks away' with the benefits of the cooperation leaving you with the costs (or the absence of the benefits).

Some authors (see for instance Williamson 1996) state that trust is a superfluous concept, and that interactions in uncertain situations can solely be explained by risk taking (the actor perceives risks and decides whether to take the risk or not). Williamson argues that risk taking should be managed by the contract. By putting all sorts of sanctions in the contract, actors can defend themselves against opportunistic behaviour of other actors. The contract this way protects them against the risks that are inherent in partnerships and cooperative relations (see also Nooteboom 2002). Following this analysis, one could state that the concept of trust is unnecessary. It is viewed as being (almost) synonymous with risk-taking. But this risk-taking perspective assumes that a calculation can be made which then forms the basis for a rational decision (Bromily & Harris 2006). Without such a calculation, the assumption of risk becomes blind. However, this assumption cannot easily be squared with the neo-institutional idea of bounded rationality.

If the possibilities to gather information are limited, then so are the opportunities to assess the behavioural alternatives that independent actors have. In public private partnerships this is precisely the case. PPP mostly take place in a large network with a great number of actors. The possibilities are wide and there is a high chance of unexpected moves. There is great uncertainty over the strategic behaviour of participating actors, the ability to gain information is limited. Rationality is bounded and an accurate calculation of risks hardly possible. We therefore state that trust is actually really relevant in PPP.

The strategic complexities in public private partnership make it too difficult for actors to foresee all the possible contingencies, reason them out or calculate them accurately (Deakin & Wilkinson 1998; Koppejan & Klijn 2004). If there is trust in the partnership, the actors no longer need to calculate all possible negative outcomes, because they expect that the outcome will be positive (Luhmann 1979). Trust is crucial in bringing partnerships and cooperation to life, it

facilitates the decision of actors to cooperate. Without trust, there will be no risk taking behaviour of the actors and therefore no satisfactory outcomes.

The fact that trust is *not* the same as calculation and cannot be entirely reduced to purely rational assessments does not mean that it is blind (Bromily & Harris 2006; Klijn 2010). Trust does in fact have a rational basis, and is it usually well-considered. Most authors point to the fact that trust grows according to the actor's earlier experiences (Nootboom et al 1996; Lyons & Metha 1997; Rousseau et al 1998) and that trust will not be sustained when it is repeatedly violated (Rousseau et al 1998; Nootboom 2002). Reciprocal behaviour is an essential condition for trust to emerge and to be sustained. This reciprocity can be developed during the mutual interactions in PPP's.

So our first theoretical conclusion is that trust is not redundant but an indispensable concept when studying PPP. In this article we focus on the role of trust in promoting good outcomes, and in particular innovation, in public private partnerships. How does trust enhance good and innovative results? We follow with the main theoretical arguments that can be found in both alliance literature and governance literature.

How could trust enhance innovation in PPPs? The effect of trust in the different stages of the innovation process.

From the literature on trust and alliances (Sako 2002; Bachman & Zaheer 2006) and collaboration (Huxham & Vangen 2005; Ansel & Gash 2008) several arguments for the benefits of trust in public private partnerships can be derived. Trust facilitates cooperation, trust solidifies cooperation and trust enhances the performance of a cooperation (Edelenbos & Klijn 2007). In this article we specifically focus on the role of trust on innovation and therefore specify the arguments towards the innovation process. In every stage of the innovation process we observe the positive effect of trust. Hereby we distinguish different, interrelated mechanisms that explain the influence of trust on innovation.

First, trust facilitates cooperation in innovation processes. Trust reduces transaction costs and hereby trust makes cooperation possible and cheaper (Edelenbos & Klijn 2007). Because trust creates greater predictability it reduces the risks inherent in transactions and cooperative relations (Kramer & Tyler 1996). In a situation where one actor assumes good intentions on the part of the other, the likelihood of unexpected interactions as a consequence of opportunistic behaviour are smaller. Given the complexity of decision-making and interactions in partnerships, this is a significant advantage. Often vertical integration is applied to reduce transaction costs in public private partnerships. But vertical integration is difficult, sometimes even impossible, to realize. When trust is present in partnership, vertical integration is no longer needed. Trust also reduces the necessity of highly detailed contracts. Thick contracts are costly and often inadequate in complex cooperation processes (Miles & Snow 1986; Grabher, 1993; Parker & Vaidya 2001). Thereby, contracts in which everything is nailed down are counterproductive for the development of creative ideas. When trust is present, partnerships can go with less detailed contracts leaving more room for innovation.

Second, trust solidifies cooperation in innovation processes. Trust increases the probability that actors will invest their resources and build long term, stable relationships. This applies to financial resources but also knowledge, time and energy. In innovation processes the return on investments are uncertain. There are no guarantees that certain investments will lead to the desired outcomes. From a transaction cost perspective, this forms a very unfavourable situation. One could say that from a 'rational point of view' actors would refrain from investing. Eminent investment are however essential to realize innovations and trust increases the willingness to invest. Thereby, trust creates stability in the relationship between public and private actors in a partnership. A long term, stable relationship is essential to come to innovation. Innovations are novelties rather than proven developments. The outcome of innovation processes are highly uncertain. Often the outcomes of the cooperation process are unknown at the start of it. The risks are high and there is much uncertainty. Trust compensates for this uncertainty and creates a strong basis for long term cooperation (Sako 1998; Parker & Vaidya 2001; Ring & Van de Ven 1992; Nooteboom et al. 1996).

Third, trust enhances the performance in innovation processes. Trust stimulates the exchange of information and knowledge, which is essential for innovation. Knowledge can be tacit and only available in the form of human capital (Nooteboom 2002). Then, it can solely be

acquired through intensive cooperation. Trust enhances this. A similar observation can be made on the importance of learning (Lundvall 1993). Trusting actors are more open toward each other (Zand 1972) which facilitates the learning process (Nootboom 2002). Most of the literature on governance and governance networks emphasizes the importance of learning processes in which actors not only exchange information but also learn from each other the particular new solutions that satisfy their interests (Rein & Schon, 1994; Hajer & Wagenaar 2003). Learning and discovering new things requires knowledge exchange and intensive interaction, made possible by trust in relationships.

As said, trust takes away the necessity of vertical integration. If vertical integration is applied, separate units are brought under one heading to minimize differences between participating actors. But different ideas and confronting perspectives are a very important ingredient for innovation. Innovations usually emerge through confrontation. When trust is present and vertical integration less needed, then differing ideas and perspectives can flourish. This enhances the changes for innovation (Miles & Snow 1986; Alter & Hage 1991; Lundvall 1993; Parker & Vaidya 2001).

The impact of trust on innovative outcomes in PPP: six hypotheses

The previous arguments lead us to the theoretical conclusion that trust has a positive effect on innovative outcomes in public private partnerships. Here, we distinguish the level of trust between the core partners in the project and the level of trust in the wider network around the project. Public private partnerships do not emerge and function in a vacuum (Osborne 2000; Steijn et al. 2011). They are imbedded in a wide network of for example citizens groups, environmental and economic interest groups and different governments. All these actors are in one way another involved and effected by the goals and possible outcomes of the project. We want to assess the influence of trust in these both environments on innovative outcomes and therefore distinguish the two. This results in our first hypothesis:

H1: The higher the level of trust between the public and private partners in a PPP project, the more innovative outcomes the project will have.

H2: The higher the level of trust between the actors in the network around a PPP project, the more innovative outcomes the project will have.

We expect that trust is as important for the overall performance of a PPP as it is for innovative outcomes. Since we measure both types of outcomes in our survey we can test this assumption. We therefore formulate the following hypothesis:

H3: The higher the level of trust between the public and private partners in a PPP project, the better is the overall performance of the project.

H4: The higher the level of trust between the actors in the network around a PPP project, the better is the overall performance of the project.

In our theoretical framework we stated that a variety of different ideas and perspectives in a partnership stimulates innovation. The same can be said for the wider network around the partnership. Much of the literature on participation emphasizes that the involvement of diverse stakeholders leads to better outcomes. Either because more information on possible solutions is acquired, because opposition is diminished, or because the involvement of different stakeholders enriches the quality of solutions (Berry et al. 1993; Dryzek 2007; Edelenbos et al. 2010; Edelenbos & Monnikhof 2001; Koppenjan & Klijn 2004; McLaverty 2002; Sørensen 2002, 2006; Young 2000, 2001).

H5: The more diverse the network around a PPP project, the more innovative outcomes the project will have.

Here, the mechanism that is expected to lead to innovation, can have a reverse expected effect on the overall performance of the PPP project. There is much literature emphasizing that different perceptions in the network create difficulties in achieving good results. Great differences between actors means different strategies and varying problem definitions, this makes it harder to achieve solutions where all actors can agree with. There will be more transaction costs to bridge the gaps. These arguments can be found in both the literature on networks (Koppenjan & Klijn 2004; Mandell 2001; McGuire & Agranoff 2011) and on collaborative governance (Ansell &

Gash, 2008; Huxham & Vangen 2005). We hypothesize that, even though a large, diverse network is good for innovation, it has a negative effect on the more general outcomes of a PPP project.

H6: The more diverse the network around a PPP project, the worse is the overall performance of the project.

3. Methodology

3.1 Sample and data collection

To test our hypotheses we use data that we collected with an internet survey launched in the beginning of March 2014. At the moment of writing this paper the survey is still running. The following analysis is based on the data we collected until March 26th. All respondents are individuals that are involved in PPP projects in the Netherlands. Extensive efforts were made to collect respondents from as many as possible PPP projects.

- 91 PPP projects
- approximately 400 respondents approached
- 148 surveys completed (up to March 26th 2014)

3.2 Measurement of variables

measuring outcomes and common method bias

There is much discussion about the measurement of outcomes (Agranoff & McGuire 2003; Kickert et al 1997; Mandell2001; Meier & Toole 2007). Measuring outcomes in complex governance networks, which public private partnerships are, is difficult for several reasons. Ex ante formulated goals are often absent, goals change over time and the actors involved often formulate and work with their own goals (Klijn et et. 2010). We address this problem by using the perceived outcomes of the involved actors as a proxy for the project outcomes.

We are aware of the fact that our approach can lead to so-called common source, or common method bias. Both independent and dependent variables are measured from the perceptions of the same survey respondents. People have a tendency to maintain consistency in their responses, therefore there is a possibility that the overall attitude (positive or negative) of a respondent paints his or her response to all the items (Podsakoff & Organ 1986). This can result in inflated relationships between variables. The observed variance could be caused by the measurement method rather than by the constructs themselves. Recent research shows however that “in contrast to conventional wisdom, common method effects do not appear to be so large as to pose a serious threat to organizational research” (Lance et al 2010: 450).

We will test for common method bias (e.g. by conducting a Harman one-factor test) to evaluate the extent to which common method variance is a concern in our research. But at the time of writing this paper, we hadn't had time to run these tests yet.

Table 1 gives an overview of the used items, the scale constructions and their validity, and the nature of the variables (independent, dependent or control). The selection of items is based on the literature and earlier work of the authors on networks and governance processes. As said, all items are evaluations of the respondents at the moment the survey was taken. Respondents are asked to what extent they agreed with the propositions.

Table 1 Measurement items and constructs' reliability

variables, items and constructs	nature of variable	corrected item-to-total correlations	Cronbach's α
trust within PPP	independent		
1 there is a lot of trust between public and private parties			
trust within network around PPP	independent		.857
1 the parties involved generally live up to the agreements		.676	
2 the parties involved give one another the benefit of the doubt		.712	
3 the parties involved keep in mind the interest of other parties		.679	
4 the parties involved do not use the contributions of the others for their own advantage		.593	
5 the parties involved can assume that the intentions of other parties are good in principle		.715	
diversity in network around PPP	independent		.812
1 citizens are involved in the decision-making process		.690	
2 societal parties are involved in the decision-making process		.717	
3 political institutions are involved in the decision-making process		.596	
innovative outcomes	dependent		.771
1 compared to other projects, a lot of innovative solutions are developed in this project.		.711	
2 in this project a lot of new technology is developed or used		.537	
3 the innovative character of this project is far beyond my initial expectation		.579	
overall performance	dependent		.773
1 the content related results are sufficiently supported by the involved parties		.403	
2 the developed solutions really tackle the problems at hand		.596	
3 the content related proposals sufficiently cover the expected developments		.625	
4 the costs of this project don't overrun the set range and values		.674	
5 in general, the benefits of this project overrun the costs		.522	
stage of project	control		
1 development of a (master)plan for the project			
2 analysis of feasibility and (financial) consequences of plan			
3 political decision making on (master)plan			
4 realization of first physical construction			
5 termination of executive work			
6 transference of executive work			
complexity of project	control		
the project is characterized by a low technical complexity			

4. Preliminary results

Table 2 Descriptive statistics and correlations between variables in analysis

	mean	SD	trust pp	trust nw	io	op	dn	sp	cp
trust within PPP (1-10)	6.67	1.98	1						
trust within network (1-5)	3.42	.68	.392**	1					
innovative outcomes (1-10)	6.35	1.69	.351**	.320**	1				
overall performance (1-5)	3.98	.62	.500**	.424**	.411**	1			
diversity in network (1-10)	6.22	1.99	.238*	.254**	.209*	.206*	1		
stage of project (1-6)	4.29	1.34	.136	.081	.149	.295**	-.184	1	
complexity of project (1-10)	7.34	2.06	.095	.129	.502**	.258**	.131	.091	1

*p<0.05 **p<0.01, N is 148

Table 2 gives an overview of the correlation between all the variables in the analysis. It shows that trust within the PPP project and trust within the network around the project are positively correlated to both innovative outcomes and overall performance. This supports our hypotheses that trust has a positive effect on the performance of public private partnerships. The table further shows a significant, positive correlation between diversity in the network and innovative outcomes. The more diverse the network around a partnership is, the more innovative are its results. Other than what we hypothesized, we also find a positive correlation between network diversity and overall performance. The control variables, project stage and project complexity, are both positively correlated to the overall performance. Project complexity is also positively correlated to innovative outcomes. It can be argued that this is a logical result: the more complex a project is, the more innovative the solutions need to be. The results in table 2 give a first indication of the impact of trust and network diversity on the innovative and overall performance of PPP projects. We will follow with two, preliminary, regression analysis to further test our hypotheses.

Table 3 Regression analysis, innovative outcomes as dependent variable

	1			2			3		
	B	Beta	Sig	B	Beta	Sig	B	Beta	Sig
(constant)	2.837		.001**	2.477		.004**	.223		ns
trust within PPP	.227	.265	.006**	.194	.226	.021*	.200	.227	.021*
trust within network	.590	.239	.015*	.576	.227	.021*	.323	.127	ns
diversity in network				.099	.114	ns	.112	.119	ns
stage of project complexity of project							.080	.060	ns
							.365	.431	.000**
R ²	.173			.183			.368		

*p<0.05 **p<0.01, N is 148

Table 3 shows the results of our first, preliminary, regression analysis. In this first analysis we take ‘innovative outcomes’ as our dependent variable. In the first step, we test the effect of trust within the partnership en trust within the wider network on innovative outcomes. Both trust levels have a significant effect on innovative outcomes. The higher the level of trust within the partnership, and the higher the level of trust within the wider network, the more innovative outcomes a project has. In step 2 we add ‘network diversity’ to the analysis. Other than we concluded on the basis of the correlation matrix, network diversity does have a significant effect on neither innovative outcomes nor the overall performance of PPP projects in this model. In the last step, by adding the control variables project stage and complexity, the effect of trust within the network loses its significance. The complexity of the PPP projects has a significant, positive effect on innovative outcomes. The more complex a project is, the more innovative are its outcomes.

Table 4 Regression analysis, overall performance as dependent variable

	1			2			3		
	B	Beta	Sig	B	Beta	Sig	B	Beta	Sig
(constant)	2.176		.000**	2.083		.000**	1.239		.001**
trust within PPP	.124	.396	.000**	.114	.363	.000**	.087	.282	.003**
trust within network	.266	.283	.001**	.271	.291	.001**	.236	.265	.006**
diversity in network				.022	.068	ns	.068	.205	.024*
stage of project							.113	.249	.006**
complexity of project							.048	.164	.059
R ²	.317			.319			.419		

*p<0.05 **p<0.01, N is 148

Table 4 shows the results of our second regression analysis, in which we take ‘overall performance’ as dependent variable. In the first step, we test the effect of trust within the partnership en trust within the wider network on overall performance of PPP projects. Again, both levels of trust have a significant effect. The higher the level of trust within the partnership, and the higher the level of trust within the wider network, the better is the overall performance of a project. The effect of network diversity, added in step 2 is not significant at first. However, when we add the control variables, project stage en project complexity, its becomes significant. It shows that the more diverse the network around a PPP project is, the better is its overall performance. In step 3 we further see that the stage a PPP project is in has a positive effect on its overall performance, this forms no surprise. The effect of the project’s complexity is not significant. Complexity is not of influence on overall performance.

To conclude this paper, we come back to our hypotheses. If we go by our first analysis (conducted with provisional data) we have to reject hypotheses 5 and 6. Diversity in the network around PPP projects seems to have a positive effect on the overall performance of a project, but no significant effect on innovative outcomes. Hypotheses 1, 2, 3 and 4 we can adopt. Both trust between the partners in a PPP project, and trust between the actors in the network surrounding it, have a positive effect on innovative outcomes, and on the overall performance of the project.

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