



The keys to successful co-creation: an explanation using causal proces tracing

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To be cited as: Voorberg, W., Bekkers, V. & Tummers, L. (2014) The key to successful co-creation: an explanation of causal processing, to be presented at EGPA conference 10-12 September Speyer (Ger)

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The research leading to these results has received funding from the European Union Seventh Framework Programme under grant agreement No. 320090 (Project Learning from Innovation in Public Sector Environments, LIPSE), Socioeconomic Sciences and Humanities. LIPSE is a research program under the European Commission's 7th Framework Programme as a Small or Medium-Scale Focused Research Project (2011-2014). The project focusses on studying social innovations in the public sector (<http://www.lipse.org>).

Abstract

Co-creation with citizens is a promising concept in order to explore new approaches for rather 'wicked' societal challenges in a context of financial austerity, ageing and decreasing trust in public institutions. So far, most research to public co-creation and co-production have been focused on the identification of influential factors to co-creation processes in which citizens are involved as co-implementer of public services. Our primary goal is to examine how these influential factors influence the establishment of successful co-creation arrangements, between citizens and (local) governments, when citizens are involved as initiator or co-designer of co-creation initiatives. The second goal is to test and classify known influential factors on their explanatory strength for the establishment of public co-creation. In order to analyze the relation between the success of co-creation and these factors, we conducted a qualitative case-study of two exemplary examples of public co-creation, in which we used the method of process tracing. In doing so we were able to systematically examine what the most influential factors are to public co-creation and whether possible alternative explanations may be important. We found that our current understanding of the underlying mechanisms to public co-creation does not always cover the empirical reality. Our analysis show that successful co-creation does not so much depends on the efforts of public officials and the extent in which public organizations are adapted to co-creation. Rather, it seems to depend on the willingness, social capital and the ability to create a smoothly running organization of citizens. Remarkable is that this willingness is primarily based on whether citizens are approached because of their competences and skills.

Keywords: co-creation, public sector, citizen participation, causal process tracing

1 Introduction

I don't know specific [evaluation] criteria, but what I see is pleasant and useful. It is very valuable and generates new energy. That's the result when a group of people [citizens] collide who do not often interfere with each other (interview Starters4Communities[S4C], 2014).

This quote is illustrative for the general conviction about public co-creation. Due to financial cutbacks, rising of welfare state costs and the decline of legitimacy of public institutions, governments are turning towards citizens to ask them to contribute in public service delivery. This in order to keep public service delivery affordable and maintainable (e.g. Bovaird, 2007; De Witte & Geys, 2013; Elg, Engström, Witell, & Poksinska, 2012). This implies that citizens are not invited just to 'play along', but to 'design along' and/or allow citizens to take the initiative for public service delivery, themselves. We consider this as processes of social innovation, in which relevant stakeholders are able to bring in their knowledge, information and resources. We address this kind of thorough involvement as *public co-creation during social innovation*.

The concept of co-creation is originated from the private sector. Prahalad & Ramaswamy (2000) described that consumers become a new source of competence for corporations. This new role for consumers implies that companies should encourage an active dialogue with consumers, mobilize consumer communities, manage customer diversity and co-create personalized experiences (ibid, p. 81-84). It is in this last element where the far-reaching impact of the concept of co-creation is being reflected. Just setting up a dialogue is not sufficient anymore. This is important when co-creation is being transferred to the *public* domain. Co-creation implies then, that *citizens* are incorporated in both the design and production process of public services and products. Therefore we understand with public co-creation: *The involvement of citizens in both the design and production process of public services in order to (co)create beneficial outcomes* (Voorberg, Bekkers, & Tummers, 2014b).

In our systematic review to influential factors and the outcomes of public co-creation processes, we showed that so far, most research to public co-creation is aimed at the identification of influential factors to co-creation, in which citizens are *implementer* of public services (Voorberg, Bekkers, & Tummers, 2014a). As a result much is unknown about what happens when citizens act as initiator or designer of public services. To be more specific, we don't know how known influential factors play a role in the establishment of successful co-creation arrangements between citizens and public organizations, when citizens take the initiative or are invited to act as co-designer. As such, our theoretical understanding of how successful co-creation is being established is limited. In this research

we aim to start bridging this gap. We aim to systematically show how influential factors play a role in the establishment of co-creation arrangements between citizens and governments.

In order to do that, we conduct a qualitative case-study, in which we use the method of *process tracing* (Bennett, 2010; Collier, 2011; Tansey, 2007). Process tracing is a research method used to examine what causal mechanisms within a case explain the outcome of this case in either an inductive or deductive manner (Bennett & Checkel, 2012). Process tracing follows a 'within-case' study logic where a specific outcome is being explained by tracing back how influential factors (independent variables) played a role in the creation of that outcome (see also section 2). Compared to other research methods, causal process tracing has two important benefits: On the one hand using this method enables us to *explain* how an independent variable influence an outcome (as opposed to statistical regression analysis where only the influence of specific factor can be measured). On the other hand, by using process tracing as introduced by Bennett (2012), we are able to classify independent variables on their assumed influence. In doing so, we are able to assess more plausible to what extent variables influence the establishment of a certain outcome, than in traditional qualitative case-study research. In doing so, we aim to sharpen our theoretical understanding of co-creation processes, by finding possible alternative explanations for successful co-creation, rather than opt for statistical generalization.

In this research the following research question is leading:

How does successful co-creation emerges and which causal mechanisms explain this success?

The remainder of this paper is structured as follows: Given the novelty of the method of process tracing, in qualitative case-studies in social research and because this method highly determines the structure of our paper, we start with an extensive description of the method of process tracing. Subsequently, in our theoretical framework we describe what we understand with (successful) public co-creation and we describe, hypothesize and classify the potential influential factors. In our methods section (section 4) which kind of research techniques we used in order to conduct our analysis; we explain how we selected our cases and introduce our cases; we show how we operationalized both our dependent and independent variables. In our result section (section 5), we test our hypotheses and identify potential alternative explanations (rival hypotheses). In our conclusions we conclude which lessons can be drawn about the establishment of successful co-creation arrangements.

2 Methodology: Causal process tracing

Causal process tracing is a research method in order to examine systematically and in a qualitative manner how independent variables influence the establishment of a certain outcome (Collier, 2011 p. 823). Or to put it differently: “*Process tracing refers to the examination of the intermediate steps in a process to make inferences about hypotheses on how that process took place and whether and how it generated an outcome of interest*” (Bennett & Checkel, 2012; p. 5). This method is used for a variety of research objectives, including: 1) identifying and systematically *describe* novel political and social phenomena, 2) *evaluating* prior hypotheses and *assessing* new causal claims, 3) *gaining insights* in causal mechanism and 4) *providing alternative means*, compared to conventional regression analysis and inference based on statistical models (Collier, 2011 p. 824).

Most studies, so far, containing process tracing analysis, very often involves studies on the macro-level of policy making, based on documentary analysis (George & Bennett, 2005). Examples of the method used in social research are for instance Emmenegger (2010) who showed that ‘flexicurity’ in policy making is rather the result of unintended consequences of contingent choices (driven by short-term political gains), rather than the result of planned policy making by wise policy designers. Emmenegger’s research was aimed at identify specific events, which explains a certain phenomenon, rather than conventional ideas.

Another example is delivered by Blatter (2009). His research showed that strict regulations in environmental regulation is more accurately explained by symbolic politics than rational explanations. Here, the method of causal process tracing is used to test and falsify theory.

In this research we use the method to test prior theoretical propositions (hypotheses) and gaining possible alternative explanations (causal mechanisms) for successful public co-creation. But how to make these plausible claims for causal inference in qualitative case-studies? Process tracing is a method of ‘backwards reasoning’. Process tracing follows the logic of a ‘within-case’ analysis (George & Bennett, 2005). Within-case analysis is aimed at examining (or testing) the (assumed) relation between cause and outcome, by looking at contextual elements (independent variables), specific for this case (Bennett & Elman, 2006b), rather than making generalizable claims about the relation between two variables (as one does in ‘co-variational’ analysis). By following a within-case logic, we have a “better opportunity to gain detailed knowledge of the phenomenon under investigation” (Collier, Brady, & Seawright, 2004; p. 87). Consequently, since in causal process tracing is aimed at explaining a specific phenomenon, case selection is based on the *dependent* variable.

In our research, our dependent variable is *successful public co-creation* and we examine to what extent known influential factors, which can be derived from the academic literature, are influential to this dependent variable (causal inference). As being mentioned before, causal inference in our research is done by classifying these known factors on their (assumed) explanatory strength to successful co-creation. In doing so, we ‘translate’ theory of co-creation and co-production into “*case-specific observable implications*” (hypothesized causal mechanisms) (Bennett & Elman, 2006a p. 23). The classification of these factors can be summarized in terms of four empirical tests (Collier, 2011; Van Evera, 1997). The tests are designed along two dimensions: *necessity* and *sufficiency* (Table 1).

	<i>sufficient for affirming causal interference</i>		
		No	Yes
<i>necessary for affirming causal inferences</i>	No	<i>straw in the wind</i>	<i>smoking gun</i>
	Yes	<i>hoop test</i>	<i>doubly decisive</i>

Table 1: classification of hypothesis’s (Bennett, 2010)

The categorization can be explained as follows: factors, subjected to a ‘straw-in-the-wind’ test only give valuable information that may favor a given hypothesis, but are not decisive by themselves (Bennett, 2010). For instance, sunny weather may be part of explanation why people are more happy, but it doesn’t mean that people are unhappy if it’s raining. As such it is not a necessary condition for peoples happiness. Neither is it a sufficient explanation why people are happy, because other factors may explain more sufficiently why people are happy (for instance, having a raise or just got married).

Factors subjected to a ‘hoop’ test provide a necessary but not a sufficient criterion for exception the explanation (ibid). For instance oxygen is needed (necessary) for conducting human labor, but it isn’t a sufficient explanation why or how labor is conducted.

Passing ‘smoking gun’ tests may validate an explanation strongly over another (sufficient explanation), but doesn’t rule out other possibilities to be of importance as well (Bennett & Elman, 2006a). For instance lottery winners appear to be very cheerful when they found out they won a certain amount of money. As such it is a *sufficient* explanation of their cheerfulness. However, it is not necessary to win the lottery to be cheerful.

‘Doubly-decisive’ tests rules out one explanation over another. However the usual caveat that the definitive elimination of a hypothesis requires is often hard to achieve in social science (Collier, 2011). To put in different words: “If a given hypothesis passes a straw-in-the-wind test it only slightly weakens the rival hypothesis (i.e. the phenomenon is more sufficiently explained by another independent variable). With hoop tests it *somewhat* weakens them; with smoking-gun tests it *substantially* weakens them; and with doubly decisive tests passing *eliminates* them” (Collier, 2011; p. 825).

In our research, every hypothesis, will be 'translated' and classified along the first three tests, since it is unlikely that we will find in our research independent variables which pass the 'double-decisive' test.

We must note, that the method of process tracing has its own challenges: In the first place it might be challenging to assign the proper inference test (Collier, 2011 p. 204). In order to find the proper level, we take the literature on public co-creation and co-production into consideration. Not only do we look at which factors are being described in previous research but, we also take the number of studies in which specific attention is being paid to an influential factor into consideration (see also Voorberg et al., 2014a). Furthermore, in order to 'cast the net more widely for alternative explanations' (Bennett & Elman, 2006b), we test our conceptual framework in two cases. This, in order to cumulate our data. Our cases are similar in the sense that it both involves examples of successful establishment of co-creation arrangements. Furthermore, our cases are similar in type of co-creation (in both cases, citizens act as initiator of the initiative), administrative context and kind of respondents (see also section 4). By doing so, we can make more robust claims about causal inference of specific factors in public co-creation (Bennett & Checkel, 2012).

In our next paragraph (theoretical framework) we will define successful public co-creation. Also, we hypothesize the influential factors which we derived from the academic literature on public co-creation and co-production.

3 Theoretical framework

3.1 Defining successful co-creation

As we mentioned before, we understand with public co-creation: *The involvement of citizens in both the design and production process of public services in order to (co)create beneficial outcomes* (Voorberg et al., 2014b).

So what is then *successful* co-creation? In this research we understand with successful co-creation, the extent in which *involved stakeholders perceive that co-creation arrangements between citizens and public organizations successfully have been established*. This has two reasons: In the first place, success and failure are very much relative as they depend on the position and interests of actors involved (Bekkers, Tummers, & Voorberg, 2013). In the second place, stakeholders perceive co-creation as successful as co-creation arrangements have been established and therefore experience co-creation processes as useful in itself. Therefore, successful co-creation must be understood in the successful creation of a *co-creative process*, such as the successful establishment of constructive communication between different stakeholders (Baars, 2011; Bifulco & Ladd, 2006), increased participation (Jakobsen, 2013; Jette & Vaillancourt, 2011) or the establishment of a platform in which innovative ideas can be exchanged (Feller, Finnegan, & Nilsson, 2011). To put it differently,

In our next session we introduce the factors, which are assumed to be influential to successful co-creation. It is important to note that in order to create our theoretical framework, we build extensively on the *public co-production* literature. This has two reasons: In the first place, co-production has a far longer tradition in the public sector literature than co-creation (Verschuere, Brandsen, & Pestoff, 2012) and in the second place, co-creation and co-production are very often similarly defined (Alford, 2009; Bason, 2010; Benari, 1990).

3.2 Influential factors to public co-creation, classified along the dimensions sufficient and necessary

We can distinguish two kinds of influential factors: 1) influential factors on the organizational side of co-creation and 2) on the citizen side of co-creation. In this section we translate these factors into assumed causal mechanisms underlying the successful establishment of co-creation arrangements.

3.2.1 Influential factors on the organizational side of co-creation

The absence of a risk-averse administrative culture

A number of authors describe how a risk-averse administrative culture can be obstructive to co-creation processes (Hyde & Davies, 2004; Schein, 2005; Weaver, 2011). This is because such a culture urges co-creation initiatives to fit within these legalistic and bureaucratic culture. As such we assume that the *absence* of this risk-averse culture can be a possible explanatory factor for the success of co-creation. On the flipside, we expect that a non-risk-averse administrative culture can be considered as a driver to co-creation. However, in order for people to co-create, other resources (expertise, willingness, financials) are necessary as well. Therefore, the administrative culture cannot be considered as a sufficient explanation for the success of co-creation. For instance, Schafft & Brown (2000) showed that Hungarian Romas were able to set up co-creation with local organizations even though the (local) government was not in favor of these kind of Roma initiatives. As such, co-creation may occur *despite* a risk-averse administrative culture. Since the absence of a risk-averse administrative culture is neither necessary, nor a sufficient explanation for successful co-creation, we subject this hypothesis to a 'straw-in-the-wind' test.

Straw in the wind test 1: Successful public co-creation can be explained by the absence of a risk-averse administrative culture (H1)

The stimulating involvement of public officials

According to a number of authors, the involvement of public officials and the extent in which they are willing to incorporate citizens as co-creation partners is crucial for successful co-creation (Gebauer, Johnson, & Enquist, 2010; Kingfisher, 1998; Ryan, 2012). Corburn (2007) talks about the importance of a public officials, acting as boundary spanner as pre-condition to enable co-creation. Also Bovaird (2007) stresses the need for public professionals to trust the decisions and behaviours and service users. On the other hand, the literature also shows that a negative involvement of public officials can be very influential to obstructing the co-creation process (Hewison Sr., Gale, & Shapiro, 2012; McLoughlin, Maniatopoulos, Wilson, & Martin, 2009; Roberts, Greenhill, Talbot, & Cuzak, 2012). Both as driver and barrier, the way how public officials are involved seems to be a sufficient explanation for co-creation to succeed (or fail). We subject this hypothesis therefore to a 'smoking gun' test. However, again as Schafft & Brown (2000) have shown, co-creation might emerge without public officials being in favor of co-creation. The involvement of public officials is not a comprehensive (necessary) explanation for successful co-creation.

Smoking gun test 1: The successful co-creation can be explained by the stimulating involvement of public officials (H2)

Presence of clear incentives for co-creation

The literature on public co-creation and co-production show that clear incentives can be an important condition for actors to be involved in the co-creation process. For instance, Lam (1996) showed that if concrete financial rewards are related to the quality of service, public officials are more likely to take the interest of the service user into consideration. However, in the public domain, the clarification of these incentives is not that easy (Fuglsang, 2008). Wise et al. (2012) showed that compared to the private domain in the public sector profits are formulated in terms of intrinsic factors. So the importance of clear incentives is also in the public domain acknowledged, but it can be a challenge to articulate these incentives in such a way that they reflect the complex reality of public sector objectives. In our research we test to what extent clear incentives for co-creation are a pre-condition for co-creation arrangements. Therefore, we subject this hypothesis to a 'hoop'-test, because clear incentives seem to be considered as a necessary condition for actors to co-create. However, we cannot consider it as sufficient explanation for co-creation arrangements, since the involvement of stakeholders is relying on more than just clear incentives (for instance willingness and social capital).

Hoop test 1: Successful public co-creation can be explained by the presence of clear incentives for public co-creation (H3)

Adaption of organizational structures and procedure towards co-creation

Most authors, who described influential factors to co-creation described the extent in which organizations have changed their organizational procedures and adapted their structures and facilities. This may refer for instance, to training facilities for public officials (Elg et al., 2012), to advanced communication structures (Gebauer et al., 2010; Leone, Walker, Curry, & Agee, 2012), or the extent in which organizational systems are synchronized and adapted to the preferences and attitudes of citizens (Andrews & Brewer, 2013; Reisig & Giacomazzi, 1998; Vaillancourt, 2009). In addition, so far, research to co-creation point out that the success of co-creation is mainly the responsibility of the involved public organization (Voorberg et al. 2014). We subject the adaption of organizational structures and procedures towards co-creation to a 'smoking gun' test. Given the importance assigned to these organizational structures in the academic literature, it appears to be a

sufficient explanation for successful co-creation. However, as a comprehensive explanation, these adaptation falls short, since citizens needs to be willing and able to co-create as well.

Smoking gun test 2: Successful public co-creation can be explained by the extent in which public organizations have adapted their organizational structures and procedures in favor of co-creation efforts (H4)

3.2.2 Influential factors on the citizen side of co-creation

In this subsection we introduce the influential factors on the citizen side of co-creation.

Willingness of citizens

In the literature it has been stressed that the willingness of citizens to co-create is an important condition for co-creation and co-production (Bovaird & Loeffler, 2012b; Gebauer et al., 2010; Pouliot, 2009). This willingness can consists a number of intrinsic values (e.g. loyalty; feeling of civic duty, and ownership). As such, the willingness of citizens to co-create is, described as a necessary prerequisite for public co-creation. Therefore, we subject this factor to a hoop-test. Without willingness of any kind, citizens can't be motivated to co-create. But on the other hand, if citizens are willing to co-create, this does not imply that co-creation also occurs, for instance if they are obstructed by unwilling public officials (Kingfisher, 1998). Therefore, the willingness of citizens is considered as a necessary condition for co-creation, rather than a sufficient, comprehensive explanation.

Hoop test 2: Successful public co-creation can be explained by the extent in which citizens are willing to co-create (H5)

Social Capital

A last influential factor is *social capital*. Social capital refers to 'features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit' (Putnam, 1995). Social capital involves the number of alliances between individuals in a specific city or neighborhood. Social capital may be considered as breeding ground for co-creation (see also Corburn, 2007; Uitermark & Duyvendak, 2008). If there is no social capital within the neighborhood or city, then co-creation cannot emerge. Therefore we can hypothesize that social capital, is necessary for co-creation (Andrews & Brewer, 2013; Schafft & Brown, 2000). Therefore, the 'hoop' test seems to be the proper level to test this hypothesis. Also, because if social capital is present within a neighborhood or city it will not automatically imply co-creation with public organizations, for instance because civil initiatives based on strong social structures do not require governmental involvement or are

established despite governmental actions. Therefore, social capital is in itself not a sufficient explanation for successful co-creation.

Hoop test 3: Successful public co-creation can be explained by the level of social capital within the community (H6)

Figure 1 shows our theoretical framework schematically.

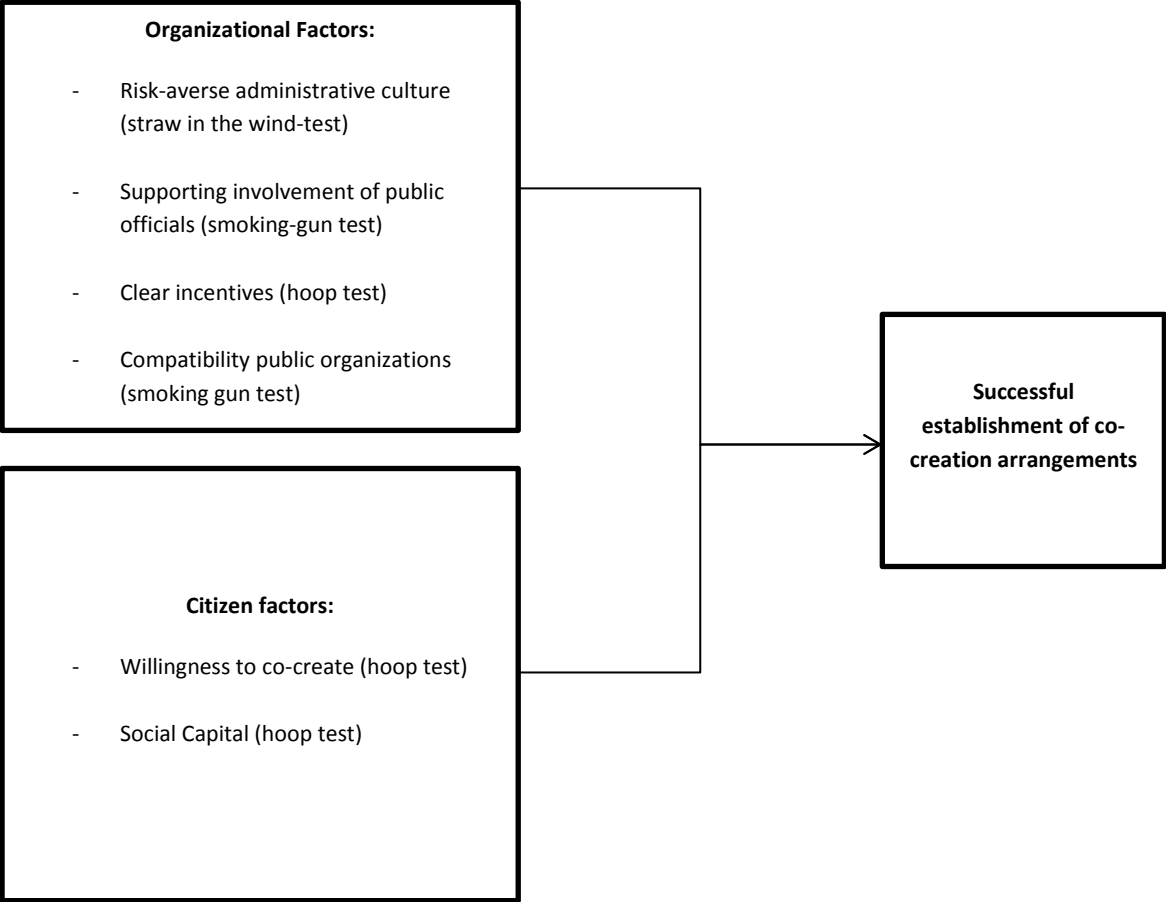


Figure 1: schematic display theoretical framework

Table 3 shows schematically the classification of the identified hypothesis's.

	<i>sufficient for affirming causal interference</i>		
	No	yes	
<i>necessary for affirming causal inferences</i>	no	<i>straw in the wind</i>	<i>smoking gun</i>
		H1: risk-averse administrative culture	H2: Stimulating involvement of public officials H4: Adaption of organizational structures and procedure of public organizations
	yes	<i>hoop test</i>	<i>double decisive</i>
		H3: Presence of clear incentives H5: willingness of citizens H6: social capital	

Table 3: classification of hypothesis's

4 Case selection and methods

As described in section 2, in this research we conduct two qualitative within case-studies, in which we use the method of process tracing to examine the underlying causal mechanisms. We select two cases of public co-creation: The first case involves co-creation in the Dutch social welfare domain (Starters4Communities), the second case involves co-creation in the urban/regeneration domain (Stadslab Leiden). As described earlier, our case selection is based on two elements: 1) being a representative example of public co-creation (citizens are involved as co-initiator) and 2) being an example of successful establishment of co-creation arrangements. A brief introduction in both cases is described below:

Starters4Communities

S4C is initiated in January 2013 by one social entrepreneur in the eastern part of Amsterdam. In December 2013, the pilot phase was finalized. Core of the initiative is the adding of well-educated juveniles (starters) to existing civil initiatives, which run into administrative trouble. As a result, starters gain valuable experience for their resume and the civil initiatives are uplifted. In the pilot phase of S4C a number of projects, aimed at enhancing the cross pollination between initiatives, professional organizations and starters; and to make the events financially sustainable (Starters4Communities, 2013[2]). In order to contribute substantially to these projects, starters received training, workshops, coaching, peer2peer support etc. (Starters4Communities, 2013[1]). Examples are, a cultural project, aimed at bringing different cultures together by organizing evenings around a specific culture; the establishment of a furniture factory (Loods 131) in which juveniles without any education could learn the craftsmanship of cabinetmaker; the establishment of a chess school for children from arrears neighbourhoods; and the setting up of a digital information board (Indische Buurtbalie) where all activities in the neighbourhood are being presented. The local municipality recognized the potential of S4C and actively connected S4C to new projects aimed at enhancing the liveability within the neighbourhoods and strengthening social connections.

Stadslab Leiden

Stadslab is the idea of two social entrepreneurs within the city of Leiden, raised in 2007. Core of the idea is to form a platform where on the one hand citizens (or other stakeholders) can bring in ideas, aimed at uplifting the city of Leiden in the broadest sense possible. On the other hand Stadslab has an updated database in which people are 'collected' who indicated to want to contribute to the city and a description of their competences and ambitions. Subsequently, Stadslab acts as a matchmaker between ideas and people who can develop them. Stadslab started off with nine different projects

(Stadslab, 2009 [2]; p. 9). The most remarkable are the updating of the Singelpark (a large rural area within the city center of Leiden, in which citizens together with the municipality decide on the design and maintaining of the park), the ‘Breestraat 2022’ (a famous street in Leiden, which now serves too many conflicting purposes, such as being an important thoroughfare, containing a large number of shops, residency and having a number of monumental buildings) and a large number of smaller initiatives with a large variety of purposes and domains (culture, education, infrastructure etc.). These initiatives are all characterized by being initiated by citizens and are aimed at updating the city of Leiden.

Our primary data source are interviews with key-stakeholders in the co-creation process. This, because we are interested in how the perception of co-creation arrangements as successful on the micro-level (actor-level). Interviews are the best way to do that: “Interviewing, and especially elite interviewing is highly relevant for process tracing approaches to case study research” (Tansey, 2007; p. 766). Furthermore, interviews are needed to “establish what people think – what their attitudes, values and beliefs are” (Aberbach & Rockman, 2002; p. 673). We conducted interviews with all relevant stakeholders (ten per case) in the co-creation process (citizens, public officials and professionals). Also we made sure that there is an equal distribution of type of stakeholders in our ‘sample’ (see table 4). The interviews have been conducted in a semi-structured way and are audio-recorded. In every interview we asked our respondents if and how the independent variables played a role in the co-creation process. The operationalization is added in Annex I. After transcribing and coding the interviews, we analyzed our data on: 1) if and how the causal mechanism has come across as suggested in the literature and 2) we conclude whether the level of influence assigned to this mechanism represents the empirical reality of our two cases.

Starters4Communities	Stadslab
5 citizens (the founder of S4C, 2 participating starters, 2 initiating inhabitants)	5 citizens (the chair of Stadslab, 2 board members, 2 participants)
3 public officials (civil servants)	3 public officials (civil servants)
2 involved professionals	2 involved professionals

Table 4: distribution of respondents in both cases

In order to triangulate our data, we consulted a number of policy documents and evaluation reports of Stadslab and S4C (see reference list). Furthermore, we consulted five known experts in order to validate our research findings.

In our next session we present the results of our analysis.

5 Results

5.1 Successful co-creation

Our respondents indicated unanimously in both cases that they consider the initiative as very successful. The same respondents also indicated that when it comes to outcomes such as increased effectiveness and efficiency the outcomes aren't that explicitly beneficial, or are not the most important criterion for the success of co-creation. In this, we recognize that our respondents consider successful co-creation as the establishment of co-creation arrangements. For instance, the members of Stadslab indicated that the success of Stadslab must be understood in terms of how they boosted and canalized the *energy* in the city. Also, the success of Stadslab lies in the fact that a 'flywheel'-effect has been created: *"You start somewhere and then the success is created by some sort of an accumulation"*, as the chair of Stadslab mentioned. In the S4C case, it has been stated that: *"successes don't need to be measured in such strict terms, but especially in those [e.g. clarified opportunities for participation] kind of things"*. In addition, published reports by both initiatives point at the initiation of *projects* as the accomplishments of the co-creation processes, rather than the *results of these projects* (e.g. Stadslab 2013; 2014; Starters4Communities, 2013; 2014 [1]; 2014[2]).

In our next session we examine how the known influential factors as described in section 3 were influential to the co-creation processes in both cases.

5.2 The influence of influential factors on successful public co-creation

5.2.1 'Straw in the wind' test

Straw in the wind test: Risk-averse administrative culture	
H1	successful co-creation can be explained the absence of a risk-averse administrative culture
Indicator	Respondents indicate that a risk-averse culture was present, but whether this influences the establishment of co-creation arrangements is largely depending on the kind of relation between citizens and government.
Result	The hypothesis doesn't pass the straw in the wind test and is rejected

Some of our respondents recognized a risk-averse administrative culture; aimed at wielding all administrative and legal frameworks; extensively bureaucratic and fragmented. As one of the public officials in the S4C case said: *"Before this [aldermen] we had a fear-based administrative culture. If it's not okay, you're gonna be held accountable for that."* This is recognized in the Stadslab case as well:

“No culture of consultation.....they were so busy on city hall that there was no time to get to know the city”, as one of the citizens mentioned. But whether and how such a culture influence the co-creation process is depending on the relation between government and citizens. In the S4C case it is shown that this risk-averse culture was predominantly obstructive only if there is a strong subsidy relation between the initiative and the local municipality: “Subsidies are horrible, the procedure is not based on trust”, as one of the civil servants explained. Furthermore: “Municipalities who are right on top of you and take over the director role”, as one of the professionals mentioned. On the other hand, in the Stadslab case it was explained that in a number of situations, Stadslab acted as ‘booster’ or broker to push the political agenda, because they acted *in reaction to* this risk-averse culture: “Leiden was a city where politics were opposed to administrators [.....] Leiden politics and the Leiden society were not quite a match” as a professional stated. As such the administrative culture did not so much caused an obstruction for Stadslab, but rather formed a reason for Stadslab to organize themselves. Based on this more nuanced description we cannot confirm our hypothesis.

5.2.2 ‘Hoop’-tests

Hoop test: Presence of clear incentives	
H3	Successful co-creation can be explained by the presence of clear incentives
Indicator	The importance of clear incentives is primarily recognized by public officials. Our analysis show that the municipality participates in concrete projects (with a specific purpose) rather than with Stadslab and S4C as such. This is related to the political urge to display support of civil initiatives.
Result	The hypothesis passes partly (for the civil servants) the hoop test

The importance of clear incentives is recognized by the interviewed public officials: Due to the political urge co-creation and civil participation becomes more and more important. For instance, the municipality of Amsterdam East describes in her municipal budget: “The municipality seeks collaboration with parties who are aimed at social activation and parties who are focused on social entrepreneurship” (Gemeente Amsterdam Stadsdeel Oost, 2013 [1]; p. 48). This is also stressed by the municipality of Leiden: “We are supporting social participation of all the inhabitants of Leiden, with the basic thought that ‘everyone participates’” (Gemeente Leiden, 2012; p. 8). Given these policy objectives, it becomes (politically) important for the municipality to display their participation in projects such as Stadslab and S4C: “Social innovation is ‘something you can’t be against right now”, as one of the public officials in the Stadslab case stated. Also: “It is not the case that they [Stadslab] just got a bag full of money. The municipality made a project out of that.” One professional of S4C mentioned: “The government has an interest to promote and stimulate this [co-creation] movement”.

Consequently, for public officials, successful co-creation seem to lie in the number of initiated tangible projects.

Interviewed citizens, indicate that their personal incentives to join the co-creation are often less concrete or that the concrete incentives are subordinate: for instance, one of the starters of S4C indicated that she was looking for a job for sure, but S4C gave her an opportunity to do ‘something for the neighborhood’. Other incentives for co-creation on the citizen side involve: ‘being a part of something innovative and/or creative’, or to ‘oppose the ‘waste of talent and energy.’ A Stadslab member told us that people want to contribute to make the city ‘more exciting’, ‘more fun’ and simply just ‘better’. These kind of motivations can hardly be considered as clear incentives, but rather general ambitions or ideals. So our analysis suggests that clarified incentives are partly an explanation for successful co-creation, due to the political urge and attention for civil initiatives, and therefore goes primarily for the governmental side of co-creation

Hoop test: Willingness of citizens	
H5	Successful co-creation can be explained by the extent in which citizens are willing to co-create
Indicator	Willingness of citizens appears to be a necessary condition for successful co-creation. Our cases show that this willingness is based on personal characteristics (such as social status, living standards and educational level) and a feeling of ownership. This feeling of ownership appears to be the strongest if it has a ‘professional’ orientation, rather than a geographical orientation.
Result	The hypothesis passes the hoop test

Our case-studies show that the willingness of participating citizens is very important for co-creation efforts. However, the kind of citizen who is participating, extensively shapes the kind of co-creation initiatives. The founder of S4C mentions that: *“citizens are very willing to contribute. However, it involves mostly the same kind of persons.”* This also came across in the Stadslab case: *“If you have to work every day so hard just to earn your bread, then you don’t have the energy to organize nice things anymore”*, as one of members of Stadslab stated. As a result: *“the typical Stadslab participant is well educated and are mostly from the upper white class.”* As a consequence, the type of the initiated projects involve mainly cultural or infrastructural activities. For social activities there is less eagerness to conduct all kinds of activities. As one civil servant of Leiden stated: *“Right now there is also need for participation (social) neighborhood level. That people take the responsibility for each other in the physical and mental health care. This group (Stadslab) is merely a ‘luxurious’ project.”* This is confirmed

by one of the board members of Stadslab: *“When it comes to voluntarily work, I rather do this, than bringing tea to the elderly”*. This is very much related to the kind of ownership that is being appealed by both Stadslab and S4C. In both cases people are being approached based on their competences and/or professionalism: *“It is not the borough or street what determines the feeling of ownership, but someone’s specialism. That is also the basis for our approach to our participants”*, as a Stadslab member illustrated. S4C is aimed at adding ‘knowledge, talent and creativity’ (of the starters) to civil initiatives (S4C, 2013[1]; p. 1) and is therefore based on the competences of starters. So the willingness of participating citizens appears to be a crucial factor for the successful co-creation and seems to be the strongest when based on professional ownership, rather than based on a geographical orientation, such as a neighborhood or city. Our hypothesis passes the hoop-test.

Hoop test: Social Capital	
H6	Successful co-creation can be explained by the level of social capital in which citizens are willing to co-create
Indicator	Our respondents mention that social capital is very important as fundament for their initiative. As such it can be understood as a condition for successful co-creation with governmental/public organizations. However, civil initiatives (funded on social capital) may also be taken opposed to public and governmental organizations.
Result	The hypothesis pass the hoop test

In our case-studies, social capital can be considered as a precondition for co-creation efforts. Co-creation processes are built on social capital (i.e. the informal networks between citizens). The initiator of S4C: *“You don’t have to convince people for the need for an initiative, because this need is already there. It is because of social capital that these people can be approached.”* According to the chair of Stadslab: *“Stadslab is the hub between using social capital and creating it. If it [social capital] wasn’t there we wouldn’t have started with 300 people”*. So social capital appears to be an important breeding ground, where the co-creation initiative can be built upon. We must note that our analysis show that social capital is a condition for co-creation, but the presence of social capital does not automatically result in co-creation, since civil initiatives can be taken opposed to the government. One of the citizens of Stadslab indicated: *“If the municipality don’t want to participate, then we do it without them”*. One of the civil servants mentioned: *“Stadslab has an essential role as [external] booster to create political pressure”*. This shows, that social capital helped the Stadslab initiative to become a serious opponent, who the Leiden administration had to deal with. Consequently co-creation arrangements were established.

5.2.3 'Smoking Gun' tests

Smoking gun test: Stimulating involvement of public officials	
H2	Successful co-creation can be explained by the stimulating involvement of public officials
Indicator	Our respondents show a variety in how public officials have been involved in the co-creation process. In some projects, they act as boundary spanner, connecting resources and people to each other. In other projects they slowed the co-creation process down, because of a distrusting attitude. Considering that in both cases successful co-creation arrangements have been established, it seems that the involvement of public officials is not that decisive as suggested in the literature.
Result	The hypothesis does not pass the smoking gun test

Our case-studies show that the involvement of public officials and the extent in which this involvement can be characterized as stimulating towards co-creation, is not that influential for co-creation arrangements as suggested in the literature. On the one hand, the initiator of S4C mentioned also that the participation broker is very actively trying to connect networks to each other. In doing so, the broker acts as a 'boundary spanner', actively linking resources and networks to each other. As such he/she has a large contribution in stimulating co-creation. On the other hand, it is far from self-evident that public officials are that inviting towards co-creation. One civil servant in the Stadslab case explained: *"there is a large part of more conservative public officials, who find it quite hard to collaborate with citizens. Next to that, civil servants do not always trust the competences of citizens"*. Our cases indicate, that for a number of civil servants it is quite hard to accept the fact that their professionalism is partly taken over by citizens: *"For someone with expertise and is asked to take a step back and let the people decide, that's quite something"* as another civil servant mentioned. Other respondents indicate that to their consideration, public officials are willing towards the co-creation process, but find it hard to cope with co-creation in the framework of existing rules and regulations: *"Intentions are good, the system is bad. Also their [public officials] intentions are good, but they are victim of the same system,"* as one professional in the S4C case stated.

But since in both our cases successful co-creation arrangements have been established, the influence of efforts of public official can't be that influential. In the Stadslab case this had much to do with the persistence of the initiators whether they could boost the political agenda: *"Politicians failed, our administration didn't want to do it either. [Stadslab] created a lobby from the city to organize it"*. This suggests that the establishment of co-creation arrangement is not so much the result of the efforts of public officials, but rather the result of activating societal pressure by the initiators until

public officials couldn't go around it anymore. In the S4C case, it has been shown that if the involvement public officials were uninviting to co-creation, the extent in which this influences the progress of the co-creation process is highly depending on the type of initiative (e.g. in infrastructural projects more than organizing cultural activities) and the dependency relation between public organization and the initiative (e.g. a subsidy relation creates a stronger dependency relation between the citizens and the involved municipality).

All in all, this indicates that the involvement of public officials may be influential to the co-creation outcomes, but is not as decisive for whether co-creation arrangements are established as suggested in the literature.

Smoking gun test: Adaption of organizational structures and procedures of public organizations	
H4	Successful co-creation can be explained by the extent in which organizational structures and procedures of public organizations are adapted towards the co-creation initiative
Indicator	Our analysis show that the level of adaption towards co-creation initiatives is primarily felt if there is a (financial) dependency relation between municipality and initiative. This involves predominantly subsidy procedures. Other respondents indicate that even though to their consideration public organizations are not that adapted towards co-creation it does not really hamper the co-creation process.
Result	The hypothesis does not pass the smoking gun test

Most of our respondents indicate that internal organizational procedures and facilities are not sufficiently adapted yet to co-creation initiatives. But the influence of this lack of compatibility is primarily felt when there is a financial relationship with the local government. In the S4c case, one public official explained: *“Here in Amsterdam the bureaucracy has become useless. For instance we have a rule that it at least takes four weeks before the request is granted. The people from this target group very often don't have the financial capacity to advance this kind of money.”* In addition, such procedures might also result in feelings of jealousy and cheek phrases. Therefore it might also hamper collaboration between initiatives within the neighborhood. Furthermore, because of a highly fragmented organization, citizens get lost when they search for the administrative responsible in their initiative. *“There are so many departments, all responsible for something. You have department ‘Green’ which is responsible for the trees and plants. And you have department ‘Grey’ which is responsible for the buildings and stuff. If Grey does something that Green doesn't want, that means that Green will not do any favors for them. As a result you have absolutely no idea who you need for*

what.” But also here, it has been stated that the influence of a lack of ‘organizational co-creation-readiness’ is primarily felt when there is a subsidy relation between the public organization and the civil initiative. We must point here distinguish between governmental organizations and professional public organizations. Both cases contain examples of co-creation where citizens actively sought collaboration with professional organizations and entrepreneurs. Local governments joined the co-creation process later on. Complaints about non-compatible public organizations only involved governmental organizations. Interviewed citizens did not complain about the collaboration with professional public organizations.

Our analysis suggests that the extent in which public organizations are adapted towards co-creation can form a (necessary) driver to co-creation efforts, but does not give a sufficient explanation why co-creation is successful.

Our analysis of organizational compatibility also showed another point: The establishment of co-creation arrangements is strongly supported if there is a smoothly running organization on the *citizen* side of co-creation. For instance, Stadslab has a database of 1000 people who all indicated that they would like to contribute to the wellbeing of the city. Having this database (and the included profiles) makes it possible to easily connect people to ideas and to find a proper match. As such, one of the professionals explained that one of the major reasons why Stadslab is successful is: *“They are the first one who are that properly organized and have such a good story. For instance a board with a number of sub-projects in which the board members participate as members but each have their own chairman.”* Because of this organized way of initiating projects, they gained a positive reputation with both the inhabitants and the local municipality: *“Sometimes I hear colleagues say: Oh, then we need Stadslab to involve the citizens”*, as one public official mentioned. Something comparable can be said about SAC: *“based on this concept of cross pollination [.....] with limited communication and PR we gained so much positive notoriety”*, as the founder of SAC said. As such, in both cases, this organized way of conducting activities turned the initiatives into a visible reference point for both citizens and municipalities. Being such a reference point (or platform) helped establishing co-creation arrangements between municipality and the initiative.

6 Conclusion

In this paper we sought to explain the occurrence of successful co-creation, that is: the (perceived) successful establishment of co-creation arrangements. The following research question was leading: *How does successful co-creation emerges and which causal mechanisms explain this success?*

We analyzed two examples of public co-creation in the Dutch welfare domain (Starters4Communities) and the Dutch urban/regeneration domain (Stadslab Leiden). Based on the literature of public co-creation and co-production we identified possible influential factors. These were hypothesized and tested in *qualitative* manner, in which we used the method of causal process tracing. By using this method, we were able to classify factors on their assumed influence on co-creation processes. Our data consist of ten interviews per case (twenty in total) in which all relevant stakeholders are being interviewed. We sharpened our analysis by consulting policy documents and making an expert round with known experts in the field of co-creation. We hypothesized that for public co-creation to be successful, how public officials are involved and the extent in which public organizations are adapted to co-creation are the most important conditions for successful co-creation (smoking gun tests). Next to that, we hypothesized a couple of necessary preconditions (hoop tests) to public co-creation (willing citizens, clear incentives for stakeholders to participate and social capital). Based on our analysis, we can draw a number of conclusions:

In the first place, we don't recognize the importance of the involvement of public officials in our case-studies. This is stressed by a number of authors (e.g. Davis & Kenneth Ruddle, 2012; Leone et al., 2012). Our cases show this is only important if there is a strong (financial) dependency relation between the co-creation initiative and the involved governmental organizations. We found something comparable when it comes to the extent in which public organizations must adapt their organization to co-creation (e.g. Bovaird & Loeffler, 2012a; Gebauer et al., 2010; Leone et al., 2012). Here we found that for stakeholders to consider co-creation as successful, rather a smoothly running organization on the citizen side is required as an independently acting organization and as a tangible reference point, than public organizations being totally adapted to co-creation initiatives.

In the second place, if we look, then to the citizen side of co-creation, we can confirm partly, as is suggested in the literature, that willingness of citizens is based on a moral orientation (Wise et al., 2012) or a geographical orientation (Talsma & Molenbroek, 2012). Furthermore, as is being suggested by authors as Sundeen (1988), it very often involves the same kind of people who are willing to co-

create (rather prosperous and well-educated). However, in addition to these authors, we found that approaching citizens on their expertise and their professionalism, rather than approaching them on their responsibility as a citizen in specific city is far more effective.

In the third place, our analysis confirm that social capital can be an important breeding ground for co-creation as is being mentioned by Ostrom (1996) and Andrews and Brewer (2013). But, our analysis show that social capital is primarily a breeding ground for civil initiatives to build upon. Whether this will result in co-creation, then, is depending on the extent in which governments are able to connect with these initiatives. As such it is a prerequisite, but doesn't imply automatically co-creation.

Our last conclusion is that the importance of concrete incentives, as being suggested in the literature (e.g. Fuglsang, 2008; Van Dijck & Nieborg, 2009), is being stressed as well in our cases. Our cases show that for public officials it is important to (politically) display governmental support to public co-creation, due to the political urge and attention for civil participation. In that sense, our studies reveal an explanation why concrete incentives are important.

We end our paper with some limitations and future research suggestions. One of the limitations is, that we tested these factors all *individually*. This has one major disadvantage: Our analysis suggests that an interplay between these factors may give a more plausible explanation for successful co-creation, than all the different factors separately. For instance, the administrative culture (subjected to a 'straw-in-the-wind' test) has in itself not so much explanatory strength. But given the possible influence that this may have on the extent in which public organizations are adapted towards citizen participation, or the political interest for co-creation, our analysis show that it may form a part of another explanatory mechanism for co-creation. Therefore all the identified factors may have combined much more explanatory strength. Future (quantitative) correlational studies may indicate whether this is the case.

Furthermore, in order to identify possible influential factors to public co-creation we consulted the literature on public co-creation and co-production. In doing so, influential factors in other bodies of literature (e.g. self-organization; interactive policy making; open innovation) may have been overlooked. It might be that these unknown factors have more explanatory strength than the ones we have examined here.

Our analysis suggest, that our current theoretical understanding of co-creation must be nuanced and is possibly enriched by our research findings. Future quantitative research needs to show to what extent these alternatives form a plausible (statistical generalizable) explanation for successful co-creation.

7 Appendix I

Organizational side	Independent variable	Definition	Indicators
	Risk-averse administrative culture	The extent in which the administrative culture can be characterized as risk-averse towards the incorporation of citizens as partners in public service delivery	<ol style="list-style-type: none"> 1. The extent in which our respondents characterize the administrative context as risk-averse 2. The extent in which our respondents report on a tradition of co-creation between citizens and public organizations 3. The extent in which in policy documents has been reported on the risks of citizen participation in general (and co-creation specifically)
	Stimulating involvement of public officials	The extent in which involved public officials show supportive behavior towards co-creation initiatives	<ol style="list-style-type: none"> 1. The extent in which our respondents characterize the attitudes of public officials towards public co-creation 2. The extent in which public officials are affiliated in order to stimulate co-creation
	Clear incentives	The extent in which it has been clarified why co-creation is beneficial or important and what it will yield for individual actors	<ol style="list-style-type: none"> 1. The extent in which our respondents indicate that it has been clarified to what the co-creation initiative (or project) will contribute 2. The extent in which our respondents report on clear incentives for them to participate in the co-creation initiative 3. The extent in which it has been concretized in policy documents why co-creation is important
	Adaption of organizational structures and procedure of public organizations	The extent in which public organizations have adapted their organizational structures, systems, routines and facilities to connect with citizens	<ol style="list-style-type: none"> 1. The extent in which our respondents indicate that public organizations made adaptations to better connect to the co-creation initiative 2. The extent in which respondents indicate that the facilities of the public organization/municipality fit the co-creation initiative 3. The extent in which in policy documents have reported on adapted public organizations in favor of co-creation

Citizen side	Willingness of citizens	The extent in which citizens are willing to co-create for a greater cause.	<ol style="list-style-type: none"> 1. The extent in which our respondents indicate that participating actors are willing to co-create 2. The extent in which our respondents indicate that non-participating actors are willing to co-create 3. The reasons why our respondents are willing to co-create
	Social capital	The extent in which social structures both between and within groups in the community are present	<ol style="list-style-type: none"> 1. The extent in which our respondents indicate that social structures are present between citizens which can act as fertile ground to build co-creation 2. The extent in which our respondents indicate that social structures are present within the neighborhoods 3. The extent in which policy documents refer to social structures as breeding ground for co-creation

Table 2: overview independent variables

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