

# Benefits and Risks of Co-production

A PRELIMINARY LITERATURE REVIEW

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## A. Introduction

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The concept of co-production prompts several assumptions concerning issues like efficiency, quality of the service and its democratic nature. This paper provides a summary of the state of knowledge on co-production and the (perceived) effects.

The present paper is preliminary in the sense that we present a first and still uncompleted literature review on the link between co-production and (assumed) effects.

We start this paper by presenting the methodology used to conduct the literature review. Next, we present the results of this systematic review. We address following questions:

1. What definitions of co-production can be found in the literature?
2. What effects of co-production can be found in the literature?
3. What theoretical frameworks are used to unravel the link between co-production and its effects?
4. What types of research methods are used?
5. What relationship between co-production and its effects can be observed empirically?

Finally, from this analysis we can conclude our review with some reflections on this literature study, and on issues for future research.

## B. Methodology for the literature review

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### 1. Search Strategy

This study draws upon an analysis of the literature from a systematic review perspective. The concepts of co-production and public participation were combined into a search string within the Thompson Reuters database, ISI Web of Knowledge. The last search was run on April 26, 2015. Search terms that were used included "co-production" OR "co-production" OR "public participation" OR "citizen engagement" OR "citizen participation" OR "co-creation" OR "co-evaluation" OR "co-implementation" OR "co-delivery" OR "co-assessment" OR "co-governance" OR "public engagement" OR "co-design" OR "co-planning" OR "co-managing".

### 2. Record Selection

The initial search strategy was then narrowed through the use of the following inclusion and exclusion criteria.

#### *Step 1*

We only included records published between 2000 and 2015 to start with. To have a consistent theme in our records we selected those records that were only included in the WoS research areas of business economics OR public administration. We include sources from the business economics literature, as we believe that public management/administration studies can learn from knowledge on client engagement/participation in private companies/businesses. Only studies written in English were eligible. This resulted in 2441 records/articles.

#### *Step 2*

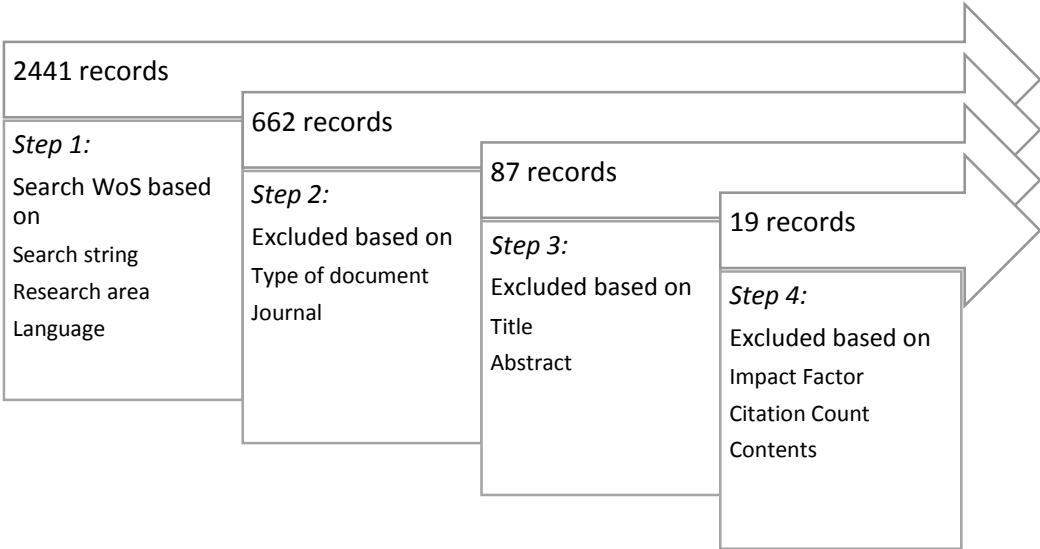
We included only peer-reviewed articles or reviews in our research criteria. We excluded the region- and sector-specific journals that did not belong to our research area. Through the use of the analyse

function on WoS those journals that only mentioned the subject once were also excluded. Using these criteria resulted in 662 articles.

*Step 3*

After the search results were filtered by the formal inclusion and exclusion criteria mentioned above, the remaining 662 records were then narrowed down by an interpretative analysis of their title and abstract. This limited the selection to articles that discussed participation/co-production and its effects in the broadest sense. This resulted in 87 articles that will be subjected to a full text analysis. The analysis is aimed at discovering: (1) how co-production/participation is conceptualized and defined, (2) how ‘effects’ of co-production/participation are conceptualized/defined, (3) the methods used to study the link/relationship between co-production and effects, and (3) the assumptions and empirical results regarding this link/relationship. The program Nvivo is used. This program helps in the analysis of the records and provided options with which we could organise, classify and represent themes within our review.

*Figure 1 Visualisation of the literature study methodology*



The 87 articles were ranked according to their journal’s impact factor and their citation count. In the present paper, we have analysed 20 articles so far. In a next step, we will also include the remaining 67 articles, as well as newly found sources (articles, book chapters, books, ...) that are referenced to in the 87 selected articles. We hope to present the final literature review, based on all sources found (87 articles + referenced sources) at the EGPA conference 2015 in Toulouse.

## C. Results of the Preliminary Literature Review

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### 1. Conceptual Framework: 'co-production' and 'effects'

#### 1.1. Defining Co-Production and Participation

We can discern between studies focusing on co-production, and on participation, both in the relationship between citizen and public or non-profit organizations (public administration studies), and in the relationship between a firm and its customers (business economics studies).

##### *Participation*

As the term is common, several authors in the articles under scrutiny seem to assume a general understanding of the concept and do not provide any specific definition on the term they will be using in their study (e.g. Halvorsen, 2003; Irvin & Stansbury, 2004; Kim, 2012; Herian, Hamm, Tomkins & Zillig, 2012; Neshkova & Guo, 2012; Buckwalter, 2014). However, when there are definitions, a clear distinction between three 'kinds of' participation appears. Firstly, in some sources one deals with customer participation, or *"the degree to which the customer is involved in producing and delivering the service"* (Bendapudi & Leone, 2003; Dong, Evans & Zou, 2008). Secondly, in some sources the term public participation is used. Kim & Lee (2012) discuss the effects of public participation, or the citizens' voluntary participation and involvement in public administration affairs and public decision making through the use of Web-based applications provided by the government (Kim & Lee, 2012, p. 820). Wang & Van Wart (2007) explain public participation as *"greater citizen access to and the involvement in the policies and operations of government-related activities, ranging from voting and running for local office to responding to government surveys and attending public hearings"* (Wang & Van Wart, 2007, p. 265). Finally, Buckwalter (2014) argues that within public participation one can find a range of different levels of citizen-administrator interactions which are comparable to the various rungs on a ladder: the higher up the ladder, the more citizens become involved (Arnstein, 1969 in Buckwalter, 2014).

##### *Co-production*

Co-production has, over the course of its existence, been defined differently by different scholars, as Jakobsen & Anderson (2013) explain in their theoretical framework. However, two of the four articles under scrutiny (Pestoff, 2006; Jakobsen & Anderson, 2013) that discuss the concept, both use the well-known definition of co-production by Parks et al.: *"Co-production involves a mixing of the productive efforts of regular and consumer producers. This mixing may occur directly, involving coordinated efforts in the same production process, or indirectly through independent, yet related efforts of the regular producers and consumer producers"* (Parks et al. 1981, p. 1002). Andrews & Brewer (2013) use *"the engagement of people in public affairs"* to describe co-production (Andrews & Brewer, 2013, p. 22).

The definition for co-production in a business context is fairly similar to its public counterpart, though perhaps less extensive. Auh, Bell, McLeod & Shih (2007) define co-production as *"constructive customer participation in the service creation and delivery process and clarify that it requires meaningful, cooperative contributions to the service process."* (Auh et al., 2007, p. 361). Troye & Supphellen (2012) focus on a specific type of co-production, calling it self-production, which *"can range from producing goods and services from scratch with little or no use of commercial products to coproducing goods and services using tools such as input products and devices."* (Troye, Supphellen, 2012, p.33)

### Co-creation

Some authors use the concept of co-creation. Although Gebauer, Fuller & Pezzeri (2013) do not provide us with a specific definition, they do explain the concept of online co-creation in their introduction. They state that “*Innovation community members may be invited to contribute to development activities such as generating and evaluating new ideas; elaborating, evaluating or challenging concepts; and creating virtual prototypes.*” Roggeveen, Tsiros & Grewal (2012), very consciously create a new definition for customer co-creation, building on the previously discussed definition of Dong et al (2008), concerning customer participation. For these authors, customer co-creation of the service recovery is “*when customers help shape or personalize the content of the service recovery through joint collaboration with the service provider, it should create value that helps reduce negative service experiences for the customer.*” (Roggeveen et al., 2012, p.772)

### In sum

Regarding the definitions above we can observe several similarities. At a (very) general level of abstraction, we can conclude that we are talking about *individuals working together with professional organizations to create, either a service, a product, knowledge, et cetera...* We are aware that there are already well-established definitions and conceptualizations of coproduction to which we do not refer here. E.g. Brandsen and Honingh (2015), who present a framework in their conclusion, in which to place the different types of co-production, based on whether we are dealing with implementation alone or also design of services, and based on whether the citizens’ efforts are in the core process of the professional organisation, or not.

	Implementation	Design and implementation
Complementary	Complementary co-production in implementation	Complementary co-production in service design and implementation
Non-complementary	Co-production in the implementation of core services	Co-production in the design and implementation of core services

Table 1 different types of co-production (Brandsen & Honingh, 2015)

In the future, larger, literature review, we shall assemble a working definition of co-production, based on this and other resources, for the purposes of our own future research (cf. below conclusion).

## 1.2. Effects of co-production

When reviewing the articles, it obviously becomes clear that interpretations of the general concept of ‘effects’ of co-production/participation may vary, and that there may be overlap between concepts used. For example Wang & Van Wart (2007) define *accountability* as the combination of *transparency*, *responsiveness* and responsibility. Halvorsen (2003) argues that citizen *empowerment* and government *responsiveness* are closely related and both result in more *satisfaction*. For the purpose of clarity and systematization, we create clusters of potential effects (both ‘benefits’ and ‘risks’) of co-production/participation.

### A. Benefits

Starting with the potential benefits of citizen participation, we see that 17 articles discuss at least one advantage in their study. It is important to mention (Irvin and Stanbury, 2004; Neshova and Guo, 2012) that these benefits may be beneficial for direct participants (process related) or for the broader public (outcome related). Next to that, as Irvin and Stanbury (2004) claim, beneficiaries can be

citizens, or the professional organization (like the government or the public agency). In terms of benefits, we discern three clusters: (1) better services, (2) better relationships between citizen/customer and professional organisation, and (3) democratic quality (in case of public sector context).

### *I. Better Services*

As several authors state, encouraging customer or citizen participation is considered the next frontier in competitive effectiveness, resulting in a shift from outcome-centred to process-centred logic (Auh et al., 2007; Bendapudi & Leone, 2003; Dong et al., 2008). Noting this, we can begin our first cluster which discusses those effects of co-production that are related to better public services.

#### *Cost-Effectiveness*

Auh et al. (2007) use cost reduction as the term for cost-effectiveness. Irvin and Stansbury (2004) make a similar connection, referring to the probability of litigation and its costs when discussing cost-effectiveness.

#### *Effectiveness*

Roggeveen (2012) refers to effectiveness as more actively involved citizens or improved evaluations. While Neskova and Guo (2012), when discussing effectiveness of citizen participation, divide the concept into process-oriented effectiveness, which means increased public knowledge and greater cooperation, and outcome-oriented effectiveness, meaning better policy and implementation decisions.

#### *Quality*

As with many of the effects, 'quality' is one that is, though complex, considered obvious in its interpretation, and thus often left undefined. Golder, Mitra, and Moorman (2012) facilitate the only definition for the concept: "We define quality as a set of three distinct states of an offering's attributes' relative performance generated while producing, experiencing, and evaluating the offering. We do not combine these states into an overall concept of quality, because important insights and actionable recommendations follow from treating each state separately. Each state of quality is a comparative assessment of an offering's attribute's performance relative to a reference standard desired by either firms or customers. (...) quality is not simply an attribute's performance but rather an assessment of performance relative to a reference standard." (Golder et al., 2012, p. 2)

#### *Satisfaction*

Satisfaction too, is less defined by its users. Though its influencers and related terms are discussed. Only Golder et al. (2012) define customer satisfaction, as "a comparison between quality (i.e., evaluated aggregate quality) and a quality standard (i.e., quality disconfirmation) (Golder et al., 2012, p. 12). Auh et al. (2007) take on the view that satisfaction results from cognitive and affective assessment of service experience, measuring the effect through the use of client loyalty. They divide the term into attitudinal loyalty, which implies citizen commitment to the organisation, and behavioural loyalty, a more objective measure of the amount the client paid the firm the previous year.

#### *Performance*

Yang and Holzer's (2006) study discusses performance extensively. They note that performance should be measured at different levels, such as the regime, constitution, executive agencies, and public

officials. This means that overall performance, for example economic success, is an outcome of the interaction among the whole, its parts, and the environment. Meanwhile, Golder et al. (2012) provide us with a short mention of a definition for performance as “the extent or level of an attribute’s functionality”. Finally, Neshkova and Guo (2012) provide two indicators of organisational performance: efficiency (operationalized as expenditures for road maintenance per vehicle mile travelled) and effectiveness (reduced fatal accidents on the road as a result of better maintained road infrastructure).

## *II. Better Relationship between citizen/customer and the professional organisation*

As Kim (2010) explains, in order to conduct and implement policies, officials in governmental organisations need to develop an effective and trustful relationship with citizens. This relationship can consist of issues like *mutual learning*, *trust* and the way in which professional organisations (like governments) take into account the need of clients/citizens (levels of *accountability*, *responsiveness* and *transparency*).

### *Learning*

The concept of ‘learning’ is, in the literature under scrutiny, considered from two different viewpoints. *Firstly*, the citizen can learn something, as Irvin and Stansbury (2004) explain: “informed and involved citizens become citizen-experts, understanding technically difficult situations and seeing holistic, communitywide solutions.” This can apply to learning about the administrative process (Neshkova and Guo, 2012), learning about the viewpoints of peers (e.g. other participants) (Halvorsen, 2003), or learning for the purpose of individual personal development (e.g. skills and knowledge) (Kim and Lee, 2012; Dong, Evans & Zou, 2008). *Secondly*, also the professional organisation (e.g. governmental organisation) can learn. Irvin and Stansbury (2004) and Kim (2010) explain that learning occurs because of the regular contact with citizen co-producers, in the sense that professionals learn to understand which policies were or will be (un)popular and why. Neshkova and Guo (2012) refer to ‘knowledge sharing’. This is the concept that citizens possess local knowledge and can propose innovative solutions that would lead to better resource allocation decisions. In this definition of learning, there is already an implicit assumption that learning itself may yield other beneficial effects.

### *Trust*

Wang and Van Wart (2007) provide us with the clearest definition of the effect ‘*trust*’. According to their work, *trust* is the people’s belief that their interests are being treated fairly and that the other party (e.g. the government) is reliable to carry out its role. Yang and Holzer (2006) divide the effect into two aspects: (1) cognition-based trust which they define as the belief in the other party’s abilities, while (2) affect-based trust is the trust originating from the social-psychological bonds between parties. Lastly, Kim (2010) and Halvorsen (2003) agree that ‘*public trust*’ is the extent to which citizens have confidence in public institutions to operate in the best interests of society and its constituents.

### *Being considerate for clients/citizens’ needs*

A potential effect of co-production and participation is that it increases the chances for professional organisations to increase attention for citizens’/clients’ needs. This is about being *accountable*, *responsive* and *transparent*.

Wang and Van Wart (2007) provide a clear definition of *accountability*: “to be accountable is to provide information about one’s performance, to take corrective action as necessary, and to be responsible for one’s performance” (Browder 1971 in Wang & Van Wart, 2007, p.270). *Responsiveness* is a term that can be closely related to ‘citizen empowerment’. As Yang & Holzer (2006) and Halvorsen (2003)

explain, this is the effect where an official asks for, and listens to the opinions of citizens, making a sincere effort to respond and understand the public concerns. It is thus logically to assume that this effect also enhances citizen empowerment, an effect discussed in the cluster 'Better Democratic Quality' below. The third term, '*transparency*', is explained by Gebauer et al. (2013) who divide the term into two components: (1) procedural justice, refers to communication between the two parties (in e.g. the citizens and government), while (2) interactional justice implies respect, politeness and honesty within the relationship.

This latter set of effects – being considerate for clients'/citizens' needs – brings us close to the third cluster of potential effects from co-production: increasing democratic quality (although we acknowledge that being attentive for clients'/citizens' needs as a government may also be considered as an indicator of 'Better Democratic Quality').

### III. *Better Democratic Quality*

To explain 'Better Democratic Quality', we refer to Neshkova and Guo (2012) who, in their comparison with bureaucracy, mention the importance of participation, equality and a bottom-up approach, as aspects of democracy. We interpret their large summation as the definition for this cluster, which includes the co-production effects *democracy, empowerment, social capital, fairness and equity*.

#### *Democracy*

Pestoff (2006) explains that '*democracy*' is intended to control the public administration, and that the state needs to be strong enough to both superintend and subsidize the work of citizens and volunteers in order for democracy to work. Halvorsen (2003) only mentions a corner stone of '*democracy*' "respect for and tolerance of those with different opinions" (Halvorsen, 2003, p. 541).

#### *Empowerment*

Buckwalter (2014) states that citizen *empowerment* should be measurable in the outcomes of the project, as these outcomes should show the citizen's efforts. He extrapolates on this, calling it 'voice', which is not just speaking, but also being heard and understood. This concept returns in the work of Irvin and Stansbury (2004) who refer to it as the representation and authority to make decisions. Similarly to this, Halvorsen (2003) defines 'empowerment' as the concept where citizens believe the decision makers take their comments seriously and the resulting decisions reflect their consideration. This importance of the citizens' perceived influence is also repeated by Kim and Lee (2012).

#### *Fairness*

According to Herian et al. (2012) there are four components upon which *fairness* can be judged: "the ability of individuals to express their viewpoint, the authority's consistency in its application of processes and transparency about how decisions are made, the respectful treatment of the participants, and the trustworthiness of the authority" (Herian et al., 2012, p. 817).

#### *Equity*

Jakobsen and Andersen (2013) explain the concept of '*inequity*' as limitations on the input of the disadvantaged service user because their lack of knowledge and other resources needed. From this, we can draw their definition for '*equity*' as an even distribution of benefits and/or input. This also relates to Halvorsen's (2003) concept of '*accessibility*', as access means: more likely to attract people of a variety of viewpoints, which can thus easily be linked to fair representation of citizens.



## *Social Capital*

In this review, Andrews and Brewer (2013) are the only authors who discuss *social capital*, providing us with five general components of the effect: community organizational life, engagement in public affairs, community volunteerism, informal sociability and social trust.

### *B. Risks*

Yet, the effects from co-production are not solely beneficiary, there are risks to be considered as well. Though some risks were referenced to by the studies researched, most were considered the opposites of the benefits above, they were thus studied within that context. In the consulted sources we have found: the risk of bias, costs, dissatisfaction, lack of impact and crowding in/out.

#### *Bias*

Bendapudi and Leone (2003) focus on the *self-serving bias*, which is a participant's tendency to take more credit than a partner for the success of a co-produced product/service while blaming the partner more when there is failure of the product/service. While Troye and Supphellen (2012) discuss *positive bias*, which is the occurrence where a citizen's/client's evaluations about the outcome improve when it is a co-produced service or product.

#### *Costs*

Irvin and Stansbury (2004) imply that *costs* equals the amount of time spent working. Neshkova and Guo (2012) also refer to the time-consuming effect of co-production. These kinds of costs (spending too much time) are thus to be considered within co-productive practice. Further literature study should also look for costs that apply to the counterpart of the coproducing citizen: the professional organisations.

#### *Dissatisfaction*

Gebauer et al. (2013) define *dissatisfaction* as dashed expectations and perceived unfairness, while Irvin and Stansbury (2004) say a lack of 'voice' could lead to *dissatisfaction*. Yang and Holzer (2006) state that citizen *dissatisfaction* has more to do with their perceptions of unfair policies and political processes.

#### *Lack of Impact*

Gebauer et al. (2013) explain that asking a community for their contribution, but neglect their feedback when taking decisions, results in a perceived *lack of impact* by clients/citizens. An effect, also discussed Yang and Holzer (2006) where citizen stories are disregarded, and are thus certainly lacking in impact. Similarly, Irvin and Stansbury (2004) note how citizen participants were misled into thinking their decisions would be implemented while instead their input was ignored or merely taken under advisement. Lastly, Buckwalter (2014) mentions 'lack of impact' in a case where citizens have the option to speak, but no way of knowing if they were being heard. Thus to a certain extent, we can consider the effect 'lack of impact' as the opposite of the benefit 'empowerment'.

#### *Crowding in/out*

Already mentioned in the benefit *equity* by Jakobsen and Andersen (2013), its opposite - the risk of *crowding in/out* - is the invisible boundary that can limit disadvantaged citizens to contribute to or benefit from co-production. Also Brandsen & Helderma (2012) reported on the crowding out effect, when studying German housing cooperatives. Irvin and Stansbury (2004) note two more potential

negative consequences of the crowding in/out effect. First, that citizen participants comprise of only a small and specific selection of the population, thus there are no guarantees that they are representative to their community. Secondly, the most powerful members of a collaborative group can push selfish decisions.

## 2. Use of Research Methods

Strategy	Author	Research Area	Data & Analysis	
Case Study	Andrews and Brewer (2013)	Education, Health, Transportation, Public Order and Safety and General Public Services	Quantitative data of state government in the U.S., made publicly available by the Government Performance Project (GPP).	Analysis of variance, estimated with robust regression
	Buckwalter (2014)	Social Protection	Qualitative data from 52 in-depth interviews with professionals and participants in citizen review panels in Kentucky, Utah, and Pennsylvania in the U.S.	Comparison of note transcription
	Pestoff (2006)	Social Protection	Qualitative data from a comparative European study <i>the TSFEPS Project, Changing Family Structures and Social Policy: Childcare Services as Sources of Social Cohesion</i> in eight European countries selecting different providers of childcare in two cities per country.	/
	Gebauer et al. (2013)	Retail	Qualitative data from an international online design contest for shopping bags initiated by SPAR Austria beginning with netnography. Followed up with an online questionnaire (n= 2435) and received 213 completed questionnaires in return.	Content analysis and factor analysis
	Irvin and Stansbury (2004)	Environmental Protection	Qualitative data from the Papillion Creek project in Omaha, U.S.	/
Survey	Halvorsen (2003)	Environmental Protection	Quantitative data from series of public meetings with USFS personnel in three rural communities in the U.S.	Factor and reliability analysis
	Kim (2010)	General Public Services	Quantitative data from the 2003, 2004, and 2006 Asia Barometer Survey data collected from citizens in Japan and South Korea.	Multiple regression analyses
	Herian et al. (2012)	General Public Services	Quantitative data from a random phone survey (n = 607) and a non-random internet survey (n = 1,000). Individuals (n = 690) who agreed to be contacted for a follow-up study were e-mailed an online survey (n= 197).	An analysis of variance and logistics and OLS regressions
	Kim and Lee (2012)	General public services	Quantitative data from the 2009 E-participation survey (n = 1076) in South Korea.	Confirmatory factor analysis and path analysis
	Wang and Van Wart (2007)	General public services	Quantitative data from a national survey in U.S. cities (n =541) where Chief administrative officers responded (n = 249).	An analysis of association, analysis of partial correlation and a path analysis
	Neshkova and Guo (2012)	Transportation	Quantitative data from an online questionnaire within the 2005 Government Performance Project (n = 117).	Linear regression analysis
	Auh et al. (2007)	Retail	Quantitative data from a list of clients from a financial services firm (n = 4,244), they collected the data through a self-administered questionnaire (n = 1,197).	Confirmatory factor analysis and path analysis.

<i>Experiment</i>	Jakobsen and Andersen (2013)	Education	Quantitative data from a field experiment, in collaboration with a local government in Denmark (n = 284).	Regression analysis
	Dong et al. (2008)	Marketing	Quantitative data from a scenario-based role-playing experiment with undergraduate students (n= 223).	Confirmatory factor analysis and path analysis
	Roggeveen et al. (2012)	Marketing	Quantitative data from four between-subjects experiments (n = 445).	Confirmatory factor analysis, mediation and power analysis
	Troye and Supphellen (2012)	Marketing	Quantitative data from three scenario-based experiments	Analysis of covariance & variance, mediation analysis and analyses of contrasts
	Bendapudi and Leone (2003)	Marketing	Quantitative data from a scenario-based experiment with students from a major U.S. university (n = 259).	Paired t-tests and regression analyses
<i>Literature Study</i>	Golder et al. (2012)	Marketing	Qualitative framework comprised of three processes (quality production process, the quality experience process, and the quality evaluation process) based on	
	Yang et al. (2006)	General Public Services	Qualitative discussion on the performance-trust link and the implications for performance measurement.	

### 3. The effects of co-production: assumptions and results

To discuss the assumptions on the effects of co-production, and the results of the studies under scrutiny, we will use the clusters of effects as we systematized these above. We thus subdivide the effects into three clusters, assuming that co-production can lead to following benefits:

- I. Better services
- II. Better relationships between citizen/client and professional organisation
- III. Better democratic quality (in a public sector context)

Remarkably, in the sources under scrutiny, we can hardly find evidence on assumed risks (like increased costs, dissatisfaction, crowding out effects, and lack of (or 'false') impact. Some authors mention adverse effects when these occur in their studies. But the only risk of co-production that is being researched in the 19 sources under scrutiny, is *bias* (see 3.4 below).

#### 3.1. Better Services

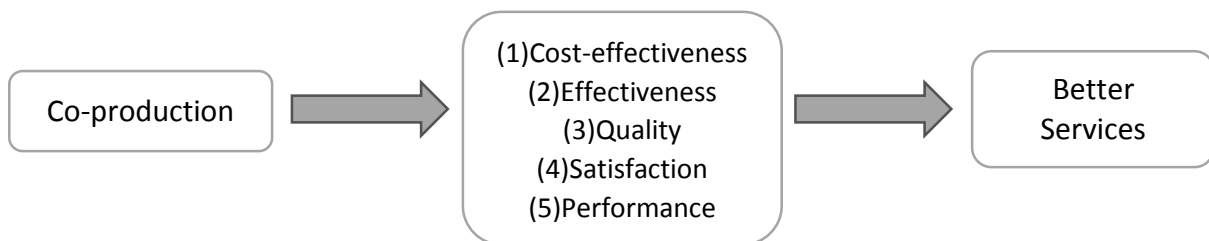


Figure 2: Cluster Better Public Services

Our first cluster of assumptions is that co-production can be positively linked to better public services. From the review we can form following hypotheses: (1) That co-production leads to more *cost-effective*, and (2) more *effective* services. That (3) co-production ensures *quality* of public services and (4) that co-production creates more *satisfaction* with the public services. And finally, (5) co-production leads to better *performance*.

Auh et al. (2007) assume that co-production leads to stronger perceptions of customization, which can be linked to (1) government *responsiveness* (a responsive government will ensure better customized services for its citizens), and (2) cost reductions (= *cost-effectiveness*). This in turn should then lead to more favourable assessments by the citizens/clients of the organization (= *satisfaction*). As a measurement of these effects of coproduction, Auh et al. (2007) firstly focused on client loyalty. They found that co-production leads to an increased attitudinal loyalty, which indicates the clients' intentions to stay committed to the organisation. Besides this, they found that communication between citizen and professionals leads to more *effectiveness* within the co-production project, which in turn again leads to a more loyal client. Since Auh et al. (2007) used attitudinal loyalty as a measurement for satisfaction, we can thus surmise that co-production leads to a more *effective* organisation and a more *satisfied* client.

Secondly, they posited that co-production is '*cost-effective*' for service organisations who have a labour-intensive production processes or cannot stockpile, but also for clients, as co-production could lead to a reduction in price. They use behavioural loyalty, which indicates the amount the client has on spend on the organisation, to acquire results on this effect. However, in their conclusion, they find no significant link between co-production and behavioural loyalty. Though they remark, attitudinal

loyalty might have mediated this effect, suggesting that financial benefits may be more gradual on the long run instead.

The experiments with students by Dong et al. (2008) and Roggeveen et al. (2012) both discuss co-creation in service recovery. This is considered a potential new recovery response, that not only fixes the issue but will also repair the damaged relationship between customer and the organisation. Dong et al. (2008) tested students in a setting of self-service technologies (e.g. online course enrolment). They wanted to find out whether an increase of participation would lead to greater role clarity and greater ability (which earlier has been defined as *learning*), greater perceived value and *satisfaction* and even potential future co-creation. Their experiment confirmed these hypotheses, indicating that co-creation can increase customers' knowledge and specialized skills which in turn encourages them to co-create in the future. The scenario-based experiments done by Roggeveen et al. (2012) extends on this study done by Dong et al. (2008). They explored whether co-creation in service recovery (here, when a flight is cancelled, allowing the customer to co-decide in the booking of a new flight) could increase *satisfaction* and be more *cost-effective* than compensation. The experiments confirmed that co-creation improves customers' evaluations and thus their *satisfaction* with the end result. Secondly, co-creation is more *cost-effective* because the organisation simply needs to meet a customer's requests instead of exceeding them. However, results from this experiment also point to a risk: that when co-creation is perceived as work, it can create *dissatisfaction* with the clients.

Another effect of 'Better Services' is *performance*. From their country-wide survey in the departments of transportation of the U.S. Neshkova and Guo (2012) can refute the hypothesis that there is a negative relationship between the use of citizen input and organizational *performance* (being measured as efficiency and effectiveness). They found that, by incorporating citizen participation, public agencies can better serve their main objectives, thus increasing *performance*. Moreover, Neshkova and Guo (2012) could link *performance* to mutual *learning*, finding that participation leads to increased knowledge and understanding on the part of citizens and on the part of the professionals, which in turns leads to better performing services.

Yang and Holzer (2006) compiled literature on the performance-trust link, and argued that *performance* measurement can improve citizen *trust* in government directly through citizen participation in the evaluation process. In their conclusion they describe how most *performance* measurement systems are designed based on professional expertise with no consideration for citizen input, which in turn does not stimulate citizen *trust*. They close with the advice that performance measurement should instead be a social-learning process involving both the evaluators and the evaluated.

Andrews and Brewer (2013), who research social capital and management capacity in U.S. State governments as influences for better services, posit that organizations who manage effective co-production are better able to realize *social capital*. In turn, *social capital* should influence better public services, i.e. better *performance*. They find that preserving key dimensions of management capacity (e.g. financial management and HRM) and encouraging co-production of public services, leads to better public services performance. They note that eliminating public participation, and cut in management capacity, to increase effectiveness would actually have the opposite effect.

When creating an integrative framework on *quality*, Golder et al. (2012) also mention the benefits of co-production. They explain that co-production leads to products or services that are more likely to approximate what the client actually wants, suggesting a *responsive* organisation and better *qualitative* product. They also imply that with co-production, customer knowledge and motivation increases which in turn adjusts their understanding of the process (=learning).

From these results we can see that the cluster better public services is closely connected to the cluster better government-citizen relationship. More specifically the effects *learning* and *trust* are often connected in the research to better *performance* and *quality*, and thus could be just as easily subdivided in this cluster as well.

3.2. Better Relationship between citizen/client and professional organisation

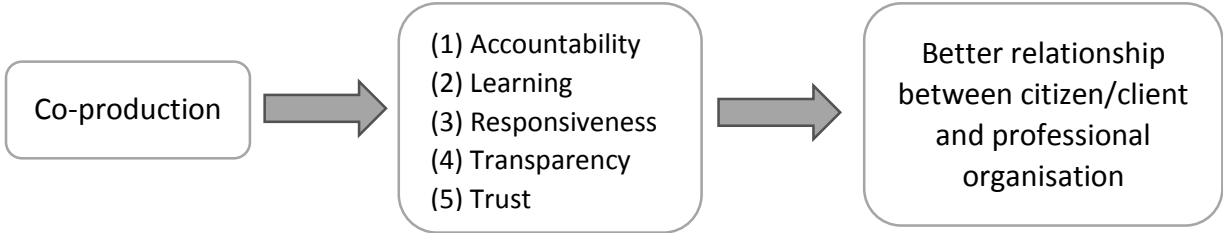


Figure 1: Cluster Better relationship between citizen/client and professional organisation

In this second cluster of assumptions, the idea is that co-production leads to a better relationship between client/citizen and professional. Within this cluster, we can discern several ‘intermediate’ effects that aid in the achievement of a better relationship. From the literature reviewed, we may assume that through co-production, (1) the government’s actions become more *accountable*. We can further assume that (2) by co-producing, citizens and administrators work in close contact, which induces mutual *learning*, (3) which in turn may result in a more *responsive* government, that answers the citizens’ needs. Also, (4) co-production may aid in government *transparency*, as it should become easier for citizens to acquire information via co-production. And lastly, (5) the citizens’ *trust* in government, a very important aspect when considering the government-citizen relationship, could improve drastically. After all, citizens can now put a name and a face to the government.

In the research done by Wang and Van Wart (2007) it is assumed that participation would enhance the evaluation (by the participating citizen) of the ethical behaviour (such as integrity and honesty) of the administrators (= *transparency*), which in turn would improve public *trust*. They hypothesize that *trust* is also gained when citizens perceive that participation results in enhanced service competence (= *performance*). However, the results from their national survey in the U.S. shed a different light upon these assumptions. Though participation can build public consensus, the process in which the citizens and government reach an agreement on what needs to be done alone does not lead to public *trust*. The same can be said on *transparency*: simply revealing information to the public does not necessarily lead to public *trust*. Instead, it seems that achieving the agreement between the public and government, or the government being *responsive* to the citizens’ input, is what actually creates public *trust*.

On the subject of *responsiveness* and *trust*, there is the survey study done by Kim (2010) in Japan and South Korea. In her study, Kim posits that having the power to influence government policy or actions (= *empowerment*), the right to be informed about government work and functions and government officials’ attention to citizen input (= *responsiveness*) is positively associated with the public’s *trust* in central and local governments. The survey data verified her hypotheses, showing that the level of perceived government *performance* and the *quality* of public services, citizens’ perceived

*empowerment*, and most importantly, the governments' *responsiveness* were all positively associated with public *trust* in both countries.

Kim and Lee (2012) provide us with the most complicated structure of the link between co-production and *trust*. They create a cluster of effects that should, together, acquire the citizens' *trust*. To begin they posit that participants' satisfaction with the user-friendliness of the project and the quality of government *responsiveness*, should be positively associated with the participants' development (=learning) through participation. Secondly, they posit that the government *responsiveness* is positively associated with the participants' perceived influence on decision making (=empowerment). From this, *learning* and *empowerment* should be positively associated with the citizens' assessment of *transparency*. And then, lastly, this *transparency* should be linked to the end objective: citizens' *trust* in government. They researched these hypotheses through a survey presented to participants of an e-participation program called Oasis, which allowed citizens to suggest ideas on proposed policies. Kim and Lee (2012) found that citizens' *satisfaction* with the participation project and government *responsiveness* had a direct and positive association with their perceptions of *learning*. Government *responsiveness* was also positively associated with the citizens' sense of *empowerment*. Assessment of government *transparency* also became more favourable when the citizens' perceived that their *learning* and *empowerment* enhanced through participation. This government transparency was then positively linked with *trust* in the government that provided the participation programs.

Lastly, Halvorsen (2003)'s research on the influence of project meetings in rural communities on citizens' beliefs demonstrated an upsurge of citizen beliefs on *responsiveness* after attending only one meeting. Simply discussing their hopes and fears with agency employees in a comfortable setting was enough to make them believe it was responsive.

We can conclude that for better government-citizen relationship, the five effects mentioned are a necessity to acquire the effect. More specifically, we notice that the effect '*trust*' is often used by authors to indicate the improvement of the relationship, whereas the others are considered variables needed to achieve this ultimate aim.

3.3. Better Democratic Quality (in a public sector context)

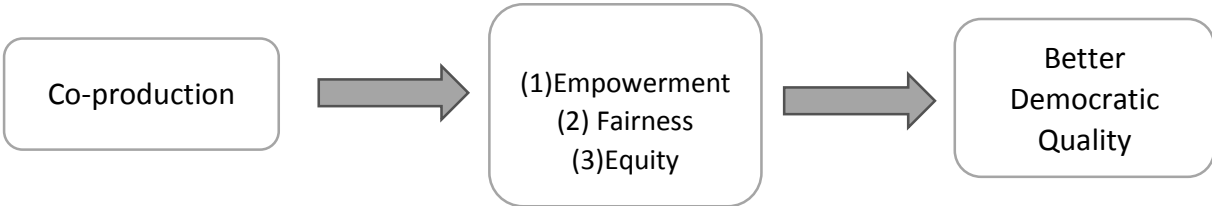


Figure 3: Cluster Better Democratic Quality

Our third and final cluster contains assumptions on the link between co-production and democratic quality: citizen *empowerment*, the level of perceived *fairness*, and increases in *equity* within the community.

When considering 'Better Democratic Quality', citizen *empowerment* is an important issue. Some of the results on this effect have already been discussed in the cluster above (Kim, 2010; Kim and Lee, 2012) as *empowerment* and *responsiveness* are undeniably linked. After all, citizen *empowerment* is the citizens' perceived influence in government decisions which follows almost directly from government *responsiveness*, to respond and understand citizen input. If this would not be the case, i.e.



the government disregards the citizens' input, then, as Halvorsen (2003) explains, the consequences could be worse than having no option for participation at all. Buckwalter (2014) research comes to a similar conclusion. He suggests that more direct and frequent interactions with administrators would lead to a sense of *empowerment* for the citizens. However he remarks, having a venue in which to participate does not guarantee a 'voice'. Instead, he explains, citizens need to be informed of their impact on the decision-making, and, referencing to the concept of mutual *learning*, citizens and administrators need to understand and accept each other's roles, in order to achieve actual perceived *empowerment*.

As Herian et al. (2012) explain, *fairness* is salient for those who are less informed, and thus more uncertain about the authority in question. They posit that when citizens participate in government evaluations, and receive information about deliberative public participation (= *transparency*), this can be positively related to *fairness*. In their results, Herian et al. (2012) find their hypotheses supported, and conclude that participation has an effect upon perceived process *fairness*. They also find that *transparency* about the public input processes drives perceptions of outcome *fairness*. Gebauer et al. (2013) agree and expand on this conclusion, finding that perceived *fairness* is of high relevance in co-creation communities. Their research reveals the importance of asking the community for their contribution, but also their feedback when making the final decision, which can be connected back to *empowerment*. As Gebauer et al. (2013) conclude, citizens require an honest and respectful exchange, but also active engagement in the decision-making process and thus, the ability to influence the outcome.

Jakobsen and Andersen (2013) specifically study *equity*, positing that by lifting the constraints on service users with a low socio-economic status by providing the necessary knowledge and materials (= *learning*), *equity* can be increased. Their findings show that co-production of public services, contrarily to what is more often assumed, can actually increase *equity*. That is, if co-production projects are specifically designed to lift the classic constraints of the disadvantaged user co-production may increase both efficiency and *equity* in the public service.

Lastly, we conclude this third cluster with an interesting case study by Irvin and Stansbury (2004) who highlighted what went wrong in a failed co-production project on environmental protection in the U.S.. To begin, the lack of information on the project (= *transparency*) meant there was little to no option for citizens to *learn* and thus could not effectively participate. Secondly, it was announced early on that the citizens input was merely advisory, which meant no sense of *empowerment* for the participants. As we remarked above, no visible impact can be worse than no participation. Thirdly, concerning *equity*, the project failed to include certain influential stakeholders, which meant the risk of *crowding in/out* occurred. And lastly, most remarkably, it seemed that the residents were generally satisfied with the government agencies in their area, which meant there was no need for them to participate. Irvin and Stansbury (2004) appropriated this to a local culture that was uninterested in participating.

3.4. Risks

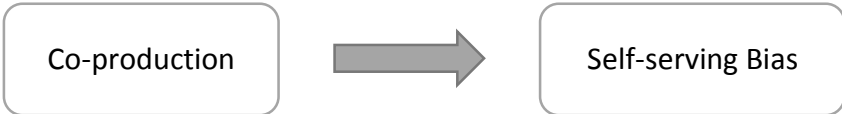


Figure 4: Risks of co-production

Our last cluster is that of the risks of co-production. We already mentioned that the risks are least investigated in the resources under scrutiny here, and scholars mainly focus presenting the benefits of co-production. In the next steps of our literature study, we will take this into account. In our selection we find at least one risk researched thoroughly, the assumption being: co-production leads to *bias*.

Bendapudi and Leone (2003) focus their study on the *self-serving bias*, a participant's tendency to take more credit for the success of a co-produced product/service while blaming the partner when there is failure of the product/service, and provide clear answers to their three hypotheses. They concluded that although a co-producer is subject to the self-serving bias, this tendency is reduced when the client has a choice in participation.

Building upon Bendapudi and Leone (2003)'s research, Troye and Supphellen (2012) study *positive bias* which means client's evaluations about the outcome improve when it is a co-produced service/product. The results of their study are confirmatory, demonstrating that co-production does lead to higher evaluations of the co-produced outcome.

## D. Conclusion

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The next steps of our research on the effects of co-production consist of (1) finalizing this literature study, and (2) the design of an empirical research on the effects of co-production.

### 1. Finalizing the literature study

This preliminary literature learned us that we need more focus in reviewing the abundance of literature sources we have at our disposal. The focus of the next steps in the literature study will be on selecting carefully the sources for the purpose of our study, which is 'Investigating the effects of co-production of public services'. We learnt from this preliminary literature study that:

A. We need more focus in the definition and conceptualization of 'co-production of public services'. Therefore, in the remainder of our literature we will predominantly focus on public administration literature on co-production and co-creation of public services for further defining our research topic and for delineating our research domain ('narrower' definition).

B. Given the relative scarcity of empirical and theoretical literature on the effects of co-production ('narrower' definition) in the public sector, we will keep on including resources that address 'citizen/client participation' in a broader sense ('engagement', 'participation', 'co-creation', 'co-evaluation', 'co-governance', ...), both from public and private sector angles (public administration and business economics literature).

### 2. Empirical research plan

From this literature study, we will build an argument for our own empirical research:

- Refined problem statement and research question
- Delineated empirical scope
- Theoretical framework and assumption
- Methodological framework (research strategy)

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