

20 Assessing the Effect of Co-Production on Outcomes, Service Quality and Efficiency

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Introduction

In this chapter a conceptual model is developed in order to distinguish the impacts of co-production.

The chapter then summarises the current state of evidence on how co-production policies, projects and initiatives have performed in terms of improvements to outcomes, service quality, efficiency, social capital and governance principles. While the evidence is still sparse, there are indications that the potential of co-production is sufficient to justify wider experimentation in public policy and practice and deeper research into the mechanisms causing the impacts.

A Conceptual Model of Role of Co-Production in Service Quality, Efficiency and Effectiveness

In this section, we will explore how co-production can bring about different kinds of benefits and costs to public service organisations and communities. Brandsen and Honingh (this volume, chapter 2) distinguish six categories of citizen input which constitute co-production and co-creation. We explore how the impacts of these can be evaluated, by examining the different ways in which professionals and citizens make better use of each other's assets, resources and contributions to achieve better outcomes or improved efficiency, considering the separate impacts of co-commissioning, co-design, co-delivery and co-assessment of services and of public outcomes.

In Figure 20.1, we show a range of different pathways which link inputs to outcomes. In highly professionalised provision, with low levels of user/community involvement, the link to service outputs and service quality is clear, but it is often less clear how these services impact on outcomes. At the other extreme, individuals or groups can achieve some outcomes for themselves through 'self-help', and not directly through the use of public services (although public services may be providing indirect or 'background' support whose contribution is invisible to them but would become more obvious if it were withdrawn).

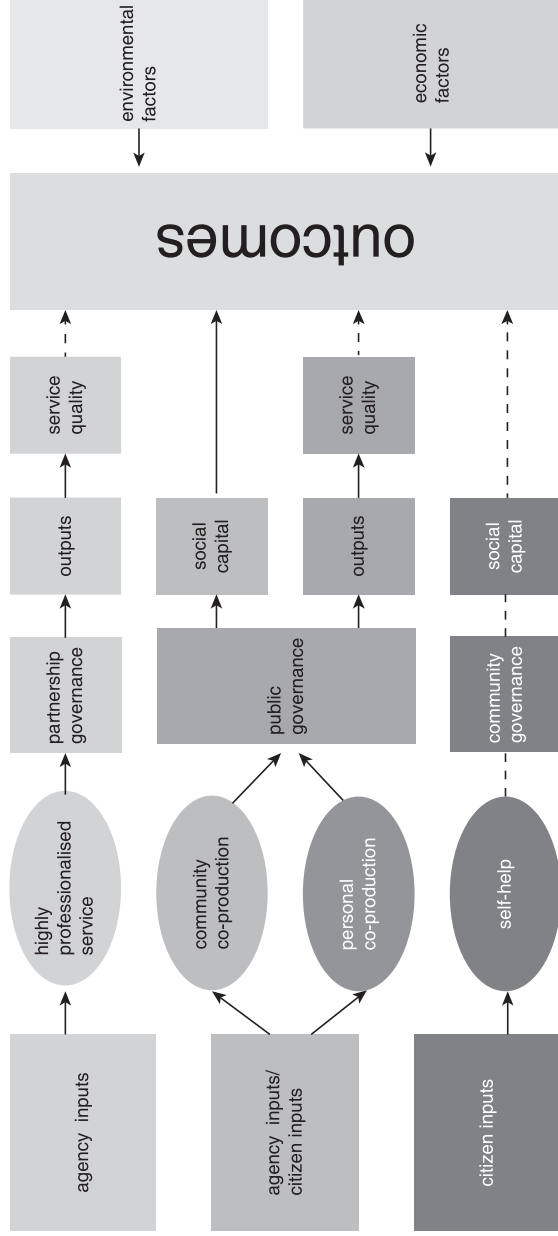


Figure 20.1 Pathways Linking Co-Production Activity to Public Services and Publicly Desired Outcomes

Co-production lies between these two extremes. It may involve service users or communities making increased contributions to public services so that public service organisations can decrease their inputs (for example public sector-led volunteering schemes). This is ‘substitutive co-production’ from a public sector point of view (Loeffler and Timm-Arnold, 2016), and is distinguished from ‘additive co-production’, where the public sector increases its inputs to complement those of citizens, for example by supporting care-givers to have respite breaks, which makes their contribution more sustainable in the long-term.

However, co-production does not always involve a public service. A key distinguishing characteristic of co-production as against highly professionalised provision is that, just like self-help, it may be able to make use of the citizen’s potential for creating a strong direct impact on outcomes, for example through preventing problems arising in the first place or through behaviour change so that problems are reduced. At least in the short-term, this may require additional resource input of the public sector—for example, to build capacity of service users to co-produce or to undertake other interventions to support behaviour change (‘additive co-production’ of the public sector). However this means that, in the medium- and long-term, the need for public services may reduce.

Figure 20.1 makes the important distinction between user-led and community-led forms of co-production, showing that their outcome pathways may be rather different. Community-led forms of co-production can be expected to have more impact than individual co-production on collectively experienced pay-offs, such as pride in the local community. They are also more likely to increase the level of social capital, defined here to mean the capacity of a social group or area to act together to achieve an agreed outcome.

While community co-production may be more effective in increasing social capital, it may be more challenging for public service organisations. Specifically, public agencies are likely to have to invest more inputs (staff time, financial resources, facilities) in order to build connections and trust between citizens themselves and also between citizens and public service organisations to undertake effective co-production in groups. Although there is the possibility that individuals who are more involved in user-led co-production may more easily be encouraged to join in community co-production, there is little research on this.

Figure 20.1 also shows that *governance processes* are needed in all pathways, even though the forms of governance may vary. In the case of highly professionalised service provision, ‘effective partnership working’ is a key issue—this is shown as ‘partnership governance’. In the case of both community and user-led co-production, ‘public governance’ will be needed—in particular, there will be issues around power relationships and accountability which need to be agreed upon. Furthermore, there may be conflicts between personal and publicly desired outcomes, which requires elected politicians

to broker interests between multiple stakeholders. In the case of self-help, citizens have to negotiate between themselves who does what in order to achieve the aspired outcomes—we label this ‘community governance’.

Evaluating the Effects of Co-Production

We now focus on the effects of co-production on the key variables highlighted in Figure 20.1. Throughout this analysis, we have to recognise that what is seen as a benefit or a cost of co-production may differ between stakeholders. For example, if increased levels of volunteering in local communities enable a local council to reduce the budget for social care while increasing the level of care provided (volunteers may be more flexible than paid staff), this may be welcomed by the politicians but be less popular with care-givers, who are already stretched, and not at all welcomed by front-line staff who have lost their jobs. Therefore, any analysis of costs and benefits of co-production needs to be stakeholder specific.

Increased Outcomes Arising from Co-Production

Public outcomes refer to the achievement of the highest level objectives of public agencies. The outcomes in Figure 20.1 include both the impact from co-produced activities on the personal well-being of individuals or groups of citizens (for example the quality of life of people with disabilities) and on more collective outcomes (for example the long-term sustainability of the natural environment). Politicians need to balance priorities between these, which is likely to bring them into conflict with some interest groups. Outcomes which are less tangible to citizens, including many collective outcomes, are typically more difficult to measure (especially when they are longer-term) and often harder to link causally to co-produced activities (Bovaird, 2012).

The most dramatic case of increased outcomes, achieved partly (although not solely) through co-production is perhaps the recommissioning of services for young people by Surrey County Council in 2012. In spite of a 25% budget cut, the number of disadvantaged young people (‘NEETs’—people not in employment, education or training) fell by 60% and the number of young people becoming known to the criminal justice system fell by 90% (Tisdall, 2014).

In some cases, the outcome improvements can be given a monetary value, in line with cost-benefit analysis and the social return on investment approach—for example the Speedwatch initiative in Wiltshire County Council involved 765 local residents in 140 volunteer teams in rural areas monitoring motorists’ speed with a laser speedgun (with built-in camera) and sending photos of offending cars and speed readings to those driving above the speed limit (Milton, 2011). This resulted in a 35% reduction of fatal and serious injuries from traffic accidents (in Wiltshire compared to a

national fall of 22% during this period). Using the values for road accidents saved suggested in HM Treasury (2014), this had a monetary value of £15m.

This economic calculus can be taken even further, to estimate the monetary value of quality-adjusted extra years of life ('quality life years' or QALYs) saved by a co-production intervention. The Manchester Community Health Trainers programme in the UK was based on the concept of getting help from neighbours, who have been trained in the skills which can help make a difference to a person's health (Lawson, 2014). A value for money assessment was undertaken in 2011/12 for over 500 clients who progressed through the programme and achieved various lifestyle goals. The assessment tool (the Portsmouth Ready Reckoner) indicated that the net cost of the programme was £4784 per QALY, well under the £10,000 threshold which is considered good value for money in behaviour change programmes.

Increased Service Quality from User/Community Involvement

As service users and communities bring in resources, such as expertise and information, not available from professionals, service quality can be improved. Moreover, active involvement of citizens in the service delivery process may change their subjective perceptions of quality. Measuring these perceptual benefits from co-production may require client surveys or in-depth exploration through interviews.

It might therefore be expected that greater user satisfaction would result from co-production (Vamstad, 2012, 310). However, this may only be so when the customer has the expertise necessary to co-create a good or service to his or her liking (Lusch, Brown, and Brunswick, 1992). Indeed, some simple measures of satisfaction may actually decrease where service users are given more responsibility or have to engage with a service in new ways (Horne and Shirley, 2009, 68).

In the context of co-production of private sector goods and services, Haumann et al. (2015), drawing on a large field experiment with customers engaging in actual co-production processes, demonstrate that co-production intensity reduces customers' satisfaction with the co-production process. Further, Bendapudi and Leone (2003, 26) demonstrated in experiments that a customer who participates in production is subject to a self-serving bias (attributing successful outcomes more to his/her inputs and unsuccessful outcomes to other actors or the context). Fledderus (2015) demonstrated a similar effect in experimental research on public services with students. Bendapudi and Leone (2003, 26) also show, however, that this tendency is reduced when a customer can choose whether to participate in production. Thus co-production may reduce satisfaction with a service provider but less markedly when the co-production is freely chosen by the service user.

Furthermore, a service user who believes he or she has the expertise and chooses to co-produce may be more likely to attribute success and failure

to his/her own efforts, rather than to the service provider, whereas a service user lacking expertise but feeling forced to co-produce (for example because appropriate advice is not available from service personnel) may be more negative about the effects of co-production on service quality (Bendapudi and Leone, 2003, 26). Finally, service users who can co-create service recovery, where it has failed, may be more satisfied with that recovery (Dong et al., 2008, 132). However, these results have not yet been researched in a public service context.

Increased Service Efficiency Resulting from Reduced Organisational Inputs or Increased Organisational Outputs

In the UK, since the severe austerity policy from 2010, a key criterion for all public sector policies has been cost savings through reduction of agency inputs. One example where this has been achieved is in Stockport Council, where a significant reduction of over £300,000 was achieved in staff costs as a result of an improved website, which was co-designed by service users (Wells, 2010), with costs of just £75,000 (from building an online calculator, providing search functionality for services, undertaking the research with customers and providing staff time).

However, such calculations are often flawed in practice. Typically, only direct costs appearing in agency budgets are recorded accurately and reductions in uncoded agency inputs, for example the time of unpaid Board members, are often ignored. Moreover, most public service organisations do not record how staff time is used and how it is affected by co-production.

Greater efficiency can also be achieved by increasing outputs at little extra cost. For example, the National Library of Finland (NLF) needed to convert millions of pages of old written archive material into digital format for its website. However, optical character recognition software made lots of mistakes which had to be corrected by people, since the human brain beats machines at transcribing hard-to-read text. Using full-time staff for this would be very expensive, so the NLF developed *Digitalkoot*, working with a crowdsourcing company *Microtask*, which used online volunteers to fix the mistakes. In the first 18 months, more than 100,000 volunteers donated over 400,000 minutes and corrected over 7.5m mistakes in the online historical newspaper archive (Miettinen, 2012).

A further reduction in agency inputs, which is given significant weight in the UK evaluation approach, is the reduction in social security benefits which occurs. Similarly, extra income accruing to public agencies is also given significant weight, for example through increases in tax payments or user fees and charges. This is, for example, a critically important benefit from the reduction of NEETs in Surrey County Council. However, these savings in social security benefits and increases in tax payments mainly have the effect of reducing central government expenditure, they are not savings

experienced by the local authority. This reduces the incentive to the local authority to seek such savings, since it does not share in all the benefits achieved.

Increased public agency income can arise in other ways, too—for example, where co-production initiatives improve an area so much that house prices and the rents paid to social landlords rise. Social landlords in the area can use the resulting higher rental income for activities which benefit the residents. In two low income neighbourhoods of Birmingham which have pioneered co-production approaches, this ‘neighbourhood equity premium’ was calculated as nearly £38,000 per property in Balsall Heath and nearly £10,000 per house in Castle Vale (Slatter, 2010, 72).

Reduction in Service User Inputs

Service users also want their time and other resources to be used efficiently. In some cases, therefore, public service providers may increase their inputs in order to make self-help initiatives more efficient, for example, through professionals providing information, training or other support to help care-givers be more efficient and effective. Such cases also need to be evaluated.

An example is given by the town of Arnsberg in Germany, where the Volunteering Agency coordinates respite care by volunteers to support hard-pressed care-givers (Stadt Arnsberg, 2016, 18). Similarly, the Shared Lives project of Age UK is a national alternative to homecare and care home arrangements, where a person with dementia can spend time in the home of another care-giver, so their own care-giver gets a break. Although these are probably examples where the total citizen time involved remains essentially constant, it does mean that the time having to be spent by the priority citizen group, the hard-pressed care-giver, has been reduced by public sector action.

Improvements to Governance Arising from Co-Production

It is important to explore how co-production affects the achievement of key public governance principles, as outcomes are not enough in themselves—‘the ends do not justify the means’. Moreover, the ‘dark side’ of co-production could involve dumping on service users, carers and other citizens some of the most difficult tasks of the state, and punishing them where they do not perform as expected (see also Steen, Brandsen and Verschuere in this volume, chapter 21). Although clearly a key area for establishing the impact of co-production, little research has so far been undertaken on this. However, the public governance effects of co-production, including transparency, partnership working, sustainability and honest and fair behaviour, were explored in detail with a range of stakeholders on the Beacon housing estate in Carrick UK (Bovaird and Loeffler, 2007). This study, like most

research so far into public governance principles, has been qualitative, as this area does not lend itself easily to quantification.

Increases in Social Capital Arising from Co-Production

Social capital is both a pre-requisite for effective co-production in a community and a well-attested outcome of co-production. This makes it tricky to separate out the effects of co-production activities on the level of social capital. Nevertheless, Slay and Stephens (2013, 10), in a review of the literature on co-production and mental health, concluded that the strongest evidence on outcomes related to improved social networks and inclusion, including stronger relationships with peers, family and friends; a reduced sense of stigma associated with mental health conditions; and a greater sense of belonging to local groups, communities of interests and networks. Evaluations showed that in one project in London (supporting people with stress, anxiety and depression to stay in or get back into work), 90% of participants reported reduced isolation, while 28% of participants in the national Expert Patients Programme made or sustained new friendships.

Identifying the Costs of Co-Production

The costs of co-production are clearly an important offset to its potential benefits. However, this has so far been little researched. The main costs involved for public service organisations include:

- *Increased front-line staff inputs*—both to encourage service users or communities to contribute their time and effort to co-production and to support them in their co-production activities, including time for staff training and ‘learning by doing’ on how to work effectively with non-professionals (Angelova-Mladenova, 2016). These costs are easier to calculate for those co-production initiatives which are ‘add-ons’ to existing services, but it is necessary to calculate them also when intensive levels of co-production are embedded within a service.
- *Increased managerial inputs* to embed co-production in the commissioning, procurement and contracting of public services, but also to create a management framework encouraging and supporting co-production (for example agreement of risk management framework, human resources competencies framework with ‘co-production friendly forms of staff behaviour’, outcomes-based performance management system), and to oversee the operation of more intensified co-production practices. These increased managerial costs may be especially high where increased citizen involvement raises the level of contention of a public sector intervention (Bartenberger and Sześciło, 2015).

- *Increased inputs of local councillors* to engage with local communities in their roles as ‘community mobilisers’ and ‘guardians of public governance’. Although councillors’ time is often not costed in public policy evaluations, it has an opportunity cost and should not be ignored.
- *Increased investments in ICT-enabled forms of co-production* (for example assistive technologies, online platforms, databases for time-banking and other social networking). In the nature of ICT solutions, these costs are often front-loaded as one-off capital investment in systems with near zero marginal costs thereafter, as seen in the US Open Government Directive which has seen the launch of health.data.gov and the creation of a new health 2.0 industry (Linders, 2012, 449).
- *Increased investment in public and infrastructure* to allow citizens to make a greater contribution (for example, public and social transport to support the mobility of co-producing citizens who interact with each other, community centres which act as meeting places and ‘clearing houses’ to match the needs of some citizens with the co-production offers of other citizens) (OECD, 2011; Andrews and Erickson, 2012).

Clearly, evaluations should also explore the costs imposed on service users and communities by co-production, although these have often been ignored:

- *Increased inputs to learn about co-production opportunities* (for example searching for volunteering opportunities, reading newsletters of public service providers, turning up at meetings arranged by public service commissioners and providers) (Batalden et al., 2016).
- *Increased inputs for preparatory and training activities* (for example training citizens who are potential co-producers in risk assessment, in health and safety procedures and in complying with safeguarding procedures for children and older people with whom they may come in contact during the co-production activity) (Asquer, 2014).
- *Increased operational inputs* resulting from more intensive co-production (for example the time which co-producing citizens have to sacrifice or any extra monetary costs which they incur for travel to meetings or food and refreshments during their co-production activities) (Alford, 2002).
- *Increased monetary donations* made by co-producing citizens (for example donations made to crowdfunded initiatives, or donations to nonprofit-organisations which are sponsoring co-production projects) (Davies, 2014; Wessel, 2016).
- *Increased ‘psychic’ costs* (Etgar, 2008) where co-producing citizens have to make changes to their lifestyle (for example to modify their behaviour and discourse when helping people from different ethnic or religious groups) or build new social relationships (for example when

working with police officers or strangers, in whose company they do not naturally feel comfortable).

However, there are few case studies where these costs have been systematically assessed, so that the overall cost-benefit evaluation for specific co-production initiatives seems to be still very much a seat-of-the-pants judgement, rather than a rational calculation.

Putting it all Together—Pathways to Outcomes

Evaluating all these elements allows us to check if indeed there is an evidence-based pathway to outcomes through co-production activities. Simply checking that increases in co-production activity are correlated with increases in outcomes, or indeed to any of these other effects, does not demonstrate that co-production was the cause of the improvements (Bovaird, 2012). This even applies in double blind randomised placebo controlled trials—if there is no plausible causal chain linking co-production to the benefits achieved, then even such ‘gold standard’ research results must be regarded with great caution.

The construction and testing of pathways to outcomes is still relatively rare in co-production activities. One very strong example is given by Surrey County Council, which undertook an extensive and participative exercise in developing and testing new pathways for outcomes which would reduce the number of NEETs in Surrey—these pathways allowed the risks involved in this major transformation of the service to be better understood and more carefully managed (Tisdall, 2014).

Conclusion: Issues for Research

Some important conclusions for researchers emerge from this chapter. First, most co-production initiatives have only a fragmentary evidence base—researchers could valuably provide templates for evidence collection in respect of the different types of co-production which they are researching, which would, in return, help to enrich the evidence base for future research.

Second, while the evidence is still sparse, it suggests the potential of co-production is sufficient to justify wider experimentation in public policy and practice. To boost the evidence base, research on co-production should seek to highlight the hypothesised causal chain linking inputs to outputs, service quality, governance principles and outcomes—not only is each of these important in its own right for some key stakeholders but together they make up the overall theory of change. Moreover, research is needed into how the priorities between these benefits are established in the political process and how this might best be influenced by citizens themselves.

Third, evaluation of co-production initiatives should not only compare ‘input/outcome’ ratios, which are generally unreliable—the hypothesised pathways to outcomes must also be tested to enable learning about WHY

some co-production approaches work better than others and to throw light on the risks involved and how they can best be managed by the multiple stakeholders involved.

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