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**Co-planning and co-design as progress
in the implementation of welfare services**

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Co-planning and co-design as progress in the implementation of welfare services

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Abstract

Co-planning (and co-design) of welfare services between public administrations and civic organisations is an innovative approach aiming to enact and maximise aggregate effort and competence contributions among complementary actors in the direction of participation and active citizenship. In our paper we develop a simple theoretical framework trying to illustrate how it is possible to pursue the first best of an optimal participated planning, design and management approach for welfare services. We examine pros and cons of different solutions reconciling involvement of civil actors and respect of antitrust principles outlining four benchmark models with different characteristics in terms of upstream and downstream participation levels. We outline policy proposals to solve dilemmas related to the difficulty of jointly activating participation, intrinsic and monetary incentives avoiding in the meanwhile collusion and corruption.

Keywords: co-planning, co-design, welfare services.

JEL numbers: I38, I30.

1. Introduction

Planning, design and management of welfare services are complex tasks with fundamental impact on societal wellbeing. These activities can involve at different levels in the three mentioned steps national governments or local administrations, not for profit companies and civic society organisations. Historically, the preferred standard approach in the field, alternative to a fully centralized institutional management, has been that of a public administration developing the first two (planning and design) phases and choosing with tender the best candidate organisation to manage the welfare service.

This approach is however criticized and considered suboptimal when acknowledging that local administrations and civic organisations have complementary non overlapping experiences, information and competences. More specifically, if it is reasonable to assume that competences on a specific service grow with management experience, civic organisations with an established past record in the field are likely to possess original and, not unfrequently, superior information and competences vis-à-vis the public administrations. The standard procurement process involving only the public administration in the first two (planning and design) steps is therefore likely to lead to a poorly planned and designed welfare service.

The welfare improving potential of an alternative approach based on co-planning and co-programming can be understood from the recent judgement of the Italian Constitutional Court in response to an application from the President of the Council of Ministers questioning the constitutionality of Umbria Regional Law (No. 2 of 11 April 2019, Article 5(1)(b)) which, in connection with community cooperatives, sought to regulate the methods of implementation of the co-planning, co-design and accreditation provided for by Article 55 of the Third Sector Code. The Government in its question alleged that the regional law encroached upon the exclusive legislative powers of the State under Article 117(2)(1) of the Constitution insofar as it broadened the range of third-sector bodies, exhaustively defined by the national law, entitled to actively participate in the national planning of measures of social utility.

In the motivation of its judgement against the Umbria regional government and in support of third-sector bodies participation to co-planning and co-design, the Court said that the latter *“are representative of the “solidarity society”, they moreover often constitute a widespread local network of proximity and solidarity, sensitive in real time to the needs that stem from the social fabric. Thus, they are able to provide the public body with both valuable information (otherwise achievable in a longer time frame and with organisational costs at its own expense) and an important organisational and intervention capacity. That often produces positive effects, both in terms of saving resources and increasing the quality of services provided in favour of the “society of need”.*

Having in mind the above mentioned issues and events our paper aims to provide an original contribution from an economic perspective to the literature of co-design and co-planning, developed mainly in the public management research. The field closer to ours with an established tradition in this literature investigates the role of co-production of welfare services intended as an innovative approach that overcomes the dichotomy between a public entity designing and delivering the service, on the supply side, and private end users of the service, on the demand side (Brudney 1983; Brudney and England 1983; Parks et al. 1981; Sharp 1980; Pestoff, 2009). The main idea is that participation of end users to the production of the service can contribute to improve it incorporating in the design itself an improved knowledge of end users preferences and needs. This literature identified direct and indirect benefits of co-production. The intuitive direct benefit is the improvement in the quality of public services that better capture knowledge and preference of users. (Bovaird 2007; Ostrom 1999). The indirect benefit is the positive externality of improved citizenship (Levine 1984; Wilson 1981), and increased social capital (Sicilia, 2016; Cahn and Gray, 2012).

Starting from this point however other authors (Alford, 2014; Bovaird, 2007) progressively develop the idea that co-production should not just consist in forms of consultation and/or involvement of individual customers/beneficiaries of the welfare service, but should be extended also to a broader range of actors including non-governmental partners. The idea of co-planning and co-design departs from this approach and extends it to a multilevel governance setting where civic society organisations having past experience in managing the welfare service cooperate with government actors in planning and designing the service. This evolved co-production approach tend to develop where welfare services are less centralized and standardized and in a favourable political scenario such as in the analysed examples of child care welfare services in Sweden (Pestoff, 2009) or in housing policy Canada (Vaillancourt, 2007).

Within this field an approach closer to ours is that of Sicilia et al. (2016) who start from the limits of an approach planned and designed by the public sector only and focus on a more complex pattern of interactions between the public sector, non-governmental entities and citizens (end users) discussing a case study in Lombardy related to the management of services for autistic children. The Lombardy model included a first stage where the regional authority involved in a consultative way end user families with a survey to understand better their perspective and needs. In the second stage the same regional authority promoted a tender identifying a series of projects where local health authorities were asked to collaborate with local non-governmental entities to design and manage the service. Sicilia et al. (2016) highlight that involvement of families in all phases of the process reinforced their trust in the institution and in the process itself. They also emphasize how this move to a ‘citizen-capability’ approach (Sen, 1993) from a ‘service-dominant’ approach (Osborne et al., 2013) requires good coordination capacity of the public manager.

Our paper aims to provide an original contribution to this literature by providing for the first time to our knowledge a simple and general theoretical framework comparing four different models dealing with the interplay between local administration and civic society organisations in co-planning, co-design and management of social services. In our theoretical analysis we outline pros and cons of the four models in terms of activation of intrinsic motivations, monetary incentives, enactment of effort and competences of complementary actors and respect of competition and anti-collusion and corruption rules. We as well provide a simulation of the comparative performance of the four different models according to parametric assumptions on coordination costs and marginal contribution of each involved actor. We finally discuss how the empirical evidence of some activated practices complies with our benchmark model and outline some policy suggestions.

2. The model

Imagine a social environment populated by n actors (X_i $i=1, \dots, n$) where one of them is a public administration (X_{PA}) and the remaining $n-1$ are civic organisations with non overlapping complementary information, competences and experiences in a given welfare service.

We assume that the path for developing the welfare service is made of three steps (planning, designing, managing). For *planning* we mean a process starting from the inquiry on the needs of a given community living in a geographical area, followed by the definition of the services that can satisfy those needs. For *designing* we mean the design of the service identified in the first step as crucial to satisfy local needs. In the standard non co-planning approach this second step coincides with the definition of the tender characteristics that will be used to identify the winning organisation which will manage the service. The third step consists of the management and operation of the welfare service.

We assume that the final value of the welfare service is given by the quality of each of the three steps (planning, designing, and managing), with quality being in turn determined by information and effort provided by participants in each step.

More formally, the value of the welfare service is given by the difference between service revenues (Y), affected by positive contributions of participants to it, and service costs (C), affected by coordination problems depending on the number of non-governmental organisations participating to the process (k)

$$V=Y(P,D,M)-C(k)$$

where P, D and M stand for planning, designing and managing functions,

$$k=n-1, P=g_P(\sum_i X_i(IEC_i, e_i)), D=g_D(\sum_i X_i(IEC_i, e_i)) \text{ and } M=g_M(\sum_i X_i(IEC_i, e_i)),$$

with the quality of each of the X actors being given by their respective information/experience/competence (IEC) set and effort (e).

We in turn assume that effort is a function of the non-governmental actor intrinsic motivations (IM) (Deci and Ryan, 2000) and expected monetary rewards (m^E) so that

$$e_i(IM_i, m^E)$$

with $m^E = (1/k)/M$ where M is the total amount of financial resources allotted to the given service that we conventionally normalize to one.

We as well assume that the effort provided by the governmental actor is the same in all cases (without making it necessary to discriminate about the relative value of the different forms) and is conventionally set to zero ($e_{PA}=0$).

2.1 The standard model without co-planning

The standard way of operating without co-planning includes a government planning and designing decision in the first two steps and the identification of the non-governmental organisation in charge of managing the service with a tender in the third step.

As a consequence, under the standard non co-planning approach the value of the welfare service is

$$V=Y(P,D,M)$$

$$\text{where } P=g_P(X_{PA}), D=g_D(X_{PA}) \text{ and } M=g_M(X_{i(W)}(IEC_{i(W)}, e_{i(W)})),$$

with $i(W)$ indicating the organisation winning the tender and coordination costs being equal to zero since $k=1$ and $C(1)=0$.

2.2 The open co-planning model

In the open co-planning model all actors participate to all stages (and, in a consultative way, to the first two planning and designing stages) knowing that they will be rewarded by having a role in the management stage. The amount of effort produced, stimulated by monetary incentives, is however limited by the fact that each of the n-1 non-governmental actors will receive a small part of the reward cake in the last stage, with the expected monetary incentive falling as far as the number of participants grows. As well, some work of coordination of the n-1 actors is required and therefore control and sharing of resources is not equally distributed and remains opaque within the n-1 network.

The final net value created in the open co-planning model is therefore

$$V=Y (g_P(\sum_i X_i(IEC_i,e_i)), g_D(\sum_i X_i(IEC_i,e_i)), g_M(\sum_i X_i(IEC_i,e_i)))-C(k)$$

with $k=n-1$ e_i (IM_i, m^E) and m^E being a negligibly small value since $\lim_{k \rightarrow \infty} m^E = 0$

The problem of this model is therefore that of incentives since effort stimulated by monetary reward tends to zero as far as k goes to infinity. In such case the value of the welfare service will solely depend on intrinsic motivations. Hence, under the extreme case of k large enough and $IM=0$, the model is dominated by the standard non co-planning approach.

Note as well that, even in the open co-planning model, activity in step 3 (management of the welfare service) requires coordination and therefore some forms of hierarchy within the group of the n-1 civic organisations. If coordination remains a public good free riding will be the optimal strategy as far as k grows. The network of the civil society must have a structured organisation with a coordination committee to solve the problem. The problem of free riding can arise also in the third stage of management.

2.3 The upstream and downstream tender co-planning model

In the upstream and downstream tender co-planning model the government selects with an open tender the winning organisation that will participate to the first two steps represented by the co-planning and co-designing activities. We assume that, if the tender is efficient, the government will select the best entity (but only one entity) in terms of information, experience, competences and effort. In such case competition rules are met and the winning organisation is rewarded for its first and second stage activity. Co-planning and co-designing receives maximum effort and information from the tender winner but obviously no contribution from the other excluded actors of the social environment.

The tender is also used to select the best organisation to manage the service in the third stage.

As a consequence the total value produced is

$$V=Y (X_{PA} , X_{i(w1)}(IEC_{i(w1)},e_{i(w1)}), X_{i(w1)} (IEC_{i(w1)},e_{i(w1)}), X_{i(w2)}(IEC_{i(w2)},e_{i(w2)}))-C(k)$$

where w1 and w2 indicate the two different identities of organisations working in the first two stages, and in the third stage, respectively, and $C(k)=0$ since also here $k=1$

The total effort in the three steps is given by the effort of the non-governmental organisation winning the tender for the given stage plus that of the public administration. If the monetary incentive is important, the number of participants large enough and coordination costs are high, the maximum effort of an individual winner at each stage is higher than the effort provided in the open co-planning model of section 2.2. If the total number of non-governmental actors is low, their intrinsic motivations are high and coordination costs are low, the open co-planning model can be preferred, while the opposite occurs when intrinsic motivations are low.

2.4 The downstream tender co-planning model

In the downstream tender co-planning model the first and second stage processes are open to everyone in a consultative way, while the selection of the service manager in the third stage is performed with a competitive tender. However IEC and effort provided by each organisation are not optimal since their first and second stage roles are only consultative and they know that they will have only a limited probability of being winner in the third stage tender.

The model is perfectly compatible with competition rules in this case since the managing actor in the third stage is selected with a tender.

The value created by this model will be

$$V = Y (g_P(\sum X_i(IEC_i, e_i)), g_P(\sum X_i(IEC_i, e_i)), X_{i(w)}(IEC_{i(w)}, e_{i(w)})) - C(k)$$

with $k=n-1$ in the first two (co-planning and co-design) stages

3. Comparative performance of the four models

A first tentative comparison of the four models is presented in Table 1. The open co-planning model is the best if the number of non-governmental actors is high, intrinsic motivations are high and coordination costs are low. It has however problems of compatibility with procurement rules. Compatibility problems grow if there is a likelihood that some non-governmental actors will be excluded from participation.

The second model is the most consistent with procurement rules but is much poorer in terms of activation of system skills.

The third model is compatible with procurement rules and more effective if participants to the first and second stage are in large number and intrinsically motivated, but remains dominated by the open model as far as increasing the number of actors to the final stage adds up to the quality of the service.

4. Simulation

To compare the effects of the four different models we conveniently assume a unit contribution to the final output value of the service from each the three inputs - i) IEC (information/experience/competence), ii) intrinsic motivations and iii) effort affected by monetary incentives.

We as well assume additivity within and between the three phases so that the final output value is the sum of actors contributions in the three (planning, designing and managing) stages. The crucial parameter for our simulation is the hypothesis on the marginal contribution of each actor to the venture. Under the most optimistic case of this benchmark scenario we are assuming an orthogonal contribution where the marginal effect of each new actor has a 100 percent weight (pure additivity).

Based on these parameters in our benchmark scenario with zero coordination costs the advantage of involving non-governmental actors in the three phases is striking and the open model dominates the other three, followed by the downstream tender and the upstream/downstream tender model (Table 2). In the sensitivity analysis presented in Figure 1 we see how this advantage falls as far as coordination costs grow. It is however only when coordination costs amount to above 70 percent of the benefits of adding new actors that the open model loses its leadership in favour of the upstream/downstream tender model.

In the simulations that follow we relax the assumption on pure additivity of the contribution of non-governmental actors and assume that each of them contributes only for an additional 50 percent to the final outcome. The underlying and more realistic assumption is that there is partial overlap of information, competence and experiences among the different non-governmental actors. In this case the open model loses its leadership just before coordination costs attain 60 percent level (Figure 2) while, under a more drastic scenario where the marginal contribution of each new actor is cut to one third, the threshold level of coordination costs where the open model loses its leadership is just below 30 percent (Figure 3)

The simulation is obviously very general but gives the idea that the benefits of co-planning and co-designing can be eroded by two factors such as the limited marginal contribution of new participants in terms of non overlapping knowledge and experiences and in terms of provided effort, on the one hand, and coordination costs of the team, on the other hand. We discuss more in depth how these coordination costs can be conceived and modelled in the section that follows.

5. Coordination costs

Without lack of generality we can model coordination costs as the difference between the cooperative outcome and the Pareto dominated Nash Equilibrium arising in typical social dilemmas such as the prisoner's dilemma (for a classification of the different types see Daniel et al. 2005). The difference is always positive and obviously depends on the payoffs of the game. We as well know that in multiplayer prisoner's dilemmas coordination becomes more difficult since the parametric interval of the prisoner's dilemma gets larger with respect to the two bordering areas where the individual cost of choosing the cooperative strategy is too high or too low and therefore the dilemma disappears. To illustrate this point, following Becchetti

and Salustri (2019) consider a simultaneous two player prisoner's dilemma where players can choose between a cooperative and a non cooperative strategy¹ and the choice of the cooperative strategy by one player creates an externality of $(1/2)X$ in the other player, produces an intrinsic motivation benefit IM for the player adopting it and has the cost of C for each player so that the payoff matrix can be represented as follows.

		Player 2	
		Cooperate	Do not Cooperate
Player 1	Cooperate	$X+IM-C, X+IM-C$	$(1/2)X+IM-C, (1/2)X$
	Do not Cooperate	$(1/2)X, (1/2)X+IM-C$	$0, 0$

Under these assumptions the dominant strategy for a “homo economicus” player, that is a player maximising its own payoff is not cooperating and the Nash Equilibrium is the pair of non cooperation strategies yielding a payoff $(0,0)$. Such equilibrium is dominated by the cooperative choice yielding $X+IM-C$ in the interval in which cooperation costs are neither too low or too high – or $(1/2)X+IM<C<X+IM$.² This is because in such interval the NE outcome is dominated by the strategy pair where both players adopt the cooperative strategy yielding the following payoffs $(X+IM-C, X+IM-C)$.

In this respect coordination costs can be calculated as being the difference between the aggregate outcome in the cooperative and non cooperative equilibrium that is $2(X+IM-C)$.

The interesting aspect of this kind of Prisoner's dilemma is that increasing the number of players not only makes the costs of non cooperation higher, given that $n(X+IM-C)$ is higher than $2(X+IM-C)$ when $n>2$, but also extends the Prisoner's dilemma interval which becomes $((1/n)X+IM<C<X+IM)$. This implies that we are in the Prisoner's dilemma interval also for lower costs of cooperation.

6. Directions to overcome coordination costs: the role of networking alliances

The game theoretical literature has formulated several proposals to solve the dilemma, thereby reducing coordination costs in our co-planning models where more than one non governmental actor is involved. Among them the pivotal role of a player signalling its

¹ Choosing a cooperative strategy implies taking an action that has some costs for the subject but that, if taken also by all other players, determines an outcome for each given player that is superior to what obtained when none of them takes a cooperative action. A typical example can be sharing information, know-how and experiences without any guarantee that also other players will do it.

² Outside this interval the Prisoner's dilemma does not apply. This is because when $C</(1/2)X+IM$ cooperation costs are so low that cooperation is the dominant strategy while, when $C>X+IM$, coordination costs are so high that the Nash Equilibrium Pareto dominates the cooperative equilibrium.

reliability in choosing the cooperative strategy and paying a cost for it in presence of non cooperative choices of the other players. In an evolutionary perspective the role of this player helps to converge to the cooperative equilibrium (Hilbe et al. 2014; Stewart and Plotkin, 2013) and the pivotal player can win with its reputation the role of coordinator of large networks. The intuition of this solution is that trustworthiness is fundamental to solve the dilemma and the pivotal player by paying a cost and signalling its stance on the cooperative strategy even when other players do not cooperate builds a reputation of trustworthiness through game rounds. Alternative proposals to solve the dilemma relate to efficient punishment strategies for players deviating from the cooperative strategies. The simplest example can be tit-for-tat strategies that reduce the cost of punishment to a single period (Axelrod and Dion, 1984). The limit of punishment strategies are that their credibility is limited when they are costly for punishers.

Other ways to foster cooperation are gift exchange strategies that trigger gratitude and reciprocity thereby creating relational goods (Becchetti et al. 2012). In presence of a high level of relational goods the violation of the cooperative strategy involves the additional negative effect of the loss of the relational good and therefore the payoff matrix changes so that the set of cooperation strategies can become also the Nash Equilibrium.

An experimented approach to reduce coordination costs is the creation of a memorandum of understanding undersigned by participants that can become a more binding “networking alliance”.

We can therefore define a networking alliance as a *non legally enforceable set of proposed tasks and strategies undersigned by the counterparts that indicate modalities of cooperation and make cooperation feasible and more likely, thereby helping to make the cooperative equilibrium an achievable focal point.* The process followed to develop it starts by identifying the network of participants, their goals and the definition of win-win “multiwinner races” where all participants can benefit or not lose from the pact. More specifically, this implies the identification of areas of actions where the participation constraints of the different actors do not bind. To make an example of multiwinner races in study groups, cooperation is much more likely when studying for a University exam than when competing for a job offer for which only one vacancy is open. This is because in the first case an improved performance of the studying mate in the group does not reduce the likelihood of success of other mates as it occurs in the second example when they compete for a unique place. The ability of scrutinizing objective functions of different non-governmental members to understand their payoffs and participation constraints in order to create multiwinner races (where gains are not univocally defined by monetary benefits but can also come from information/education achievement and or satisfaction of intrinsic motivations), and in making these two points compatible with the social goal of satisfaction of a given demand of welfare services, is a crucial point for the success of co-programming.

The networking alliance can be a useful instrument to pursue this goal.

A crucial issue when talking about a networking alliance is the difference between an alliance and a contract. The contract tries to regulate all possible contingencies, is enforceable for contingencies described in it and parties can be prosecuted for violations of its clauses, even though effectiveness of enforcement depends on the efficiency of the local justice. The problem of contracts is that they are typically incomplete (they cannot describe all possible states of affairs) and therefore cannot enforce respect of cooperation in all circumstances and

in non regulated “grey areas” of human interactions. A networking alliance does not try to regulate all possible contingencies while it indicates modalities of actions and goals to whom the parties should commit. It is effective whether parties stick to these modalities of action thereby maintaining reciprocal trust. The alliance is therefore a coordination mechanism with the aim of stimulating mutual trust and therefore cooperating strategies if parties follow it, even though the same parties cannot be prosecuted for its violation.³ This is why the networking alliance is more than a “cheap talk” whose impact on the likelihood of cooperative equilibria has also been demonstrated (Farrell, 1987), can stimulate trust and trustworthiness and indicate the direction toward the focal point of the cooperative equilibrium, thereby significantly reducing coordination costs. The essential ingredients of a networking alliance are described in Table 3 in the Appendix.

7. Discussion

Results of our simulations are obviously crucially influenced by model assumptions. The two main assumptions driving results are those on the marginal contribution of each new participating nongovernmental actor, on the revenue side, and on the magnitude of coordination costs, on the cost side. This is why in Figures 1-3 we perform a sensitivity analysis on the relative dominance of the four different models when parametric values on these two assumptions (marginal contribution and coordination costs) vary.

The model without co-planning is dominated by the three co-planning models if planning and designing skills of the governmental actor are poor and can be significantly enriched by information, experience, competences and effort of non-governmental actors. This is always the case if we assume that designing and planning capacity is crucially influenced by managing experience and that non-governmental entities have superior managing experience than the governmental actor.

The benefits of co-programming are more clear if from the static uniperiodal approach of section 5 we could move to a multiperiodal approach where welfare recipients needs and demand for welfare services evolve following a given law of motion, and information about it and about what is needed to satisfy it also evolves and is dispersed among members of the network. In such case an open co-programming process, or at least the involvement of civic society actors by the local administration, is crucial to bridge the gaps between the evolution

³ The simplest coordination mechanism in game theory is cheap talks where counterparts have the opportunity to talk to each other in order to convince the counterpart to pursue the cooperative strategy. The networking alliance is something more than a cheap talk as it an informal agreement signed by counterparts on a set of actions that enforce cooperation. As far as these actions are effectively pursued by the counterparts they reinforce trust and trustworthiness and therefore the likelihood of cooperative equilibria. In presence of a networking alliance participants have two additional incentives to choose the cooperative strategy: i) the higher expected probability that the other participants signing the alliance will do the same and that the cooperative equilibrium will be achieved; ii) the missed cost arising from violation of the alliance that would imply loss of the networking membership and loss of reputation toward networking members.

of the dynamics of local population needs and information and satisfaction of them (exactly as explained in the Constitutional Court judgement mentioned in the introduction) thereby creating more easily forms of social innovation (Vaillancourt, 2009).

In a dynamic version of the model we can as well assume that non-governmental actors participating to stage one acquire learning and networking skills. This increases their incentive to participate and their effort even when intrinsic motivations are low and the number of participants is high so that the expected monetary reward is low. The intertemporal perspective could therefore make the monetary incentive problem in the open model less binding.

Coordination problems in large networks can however arise in steps open to all non-governmental actors. If we assume that coordination costs are high, the open co-planning model does not work. More formally, if coordination costs are higher than the benefit of participating to the co-planning process, non-governmental actors decide not to participate to it. Coordination costs can be solved ex ante if non-governmental actors have a form of coordinating structure or association with fixed charges and decision rules. The decisions of the coordinating team will not necessarily satisfy all members in the same way but the coordination problem is solved.

In order to avoid violation of competition the steps of the process open to participation must be open to all non-governmental actors. This is usually obtained with a “call of interest” addressed to all the potential actors for sitting at the first (co-planning) stage of the process. If this procedure is respected the limit of the open process is not violation of competition rules but lack of incentives that can lead some of the potential participants not to sit at the table.

We can wonder what are the policy measures that can address the trade-offs and dilemmas described in our theoretical framework. Ideally we would need something increasing participation of organisations of the civic society without increasing coordination costs. Imposing co-programming (that is, choice of at least one of the three co-programming models) can improve wellbeing if marginal benefits of participation are higher than costs of coordination, at the cost however of creating a trade-off between quality and timing. However this point is not so clear-cut, since also the standard approach where the first two steps are entirely performed by the public administration can last for long. The issue of timing therefore can be properly solved by fixing deadlines to the process. In presence of a clear advantage of participation over coordination costs a policy measure imposing the choice of at least one of the three co-planning measures can be advisable.

8. Conclusions

Welfare recipient needs evolve over time depending on their tastes and rapidly changing economic and social dynamics. In this complex framework it is reasonable to assume that public administrations are imperfectly informed about them and that part of the related knowledge is captured by civil society organisations with experience and practices in the management of welfare services and daily contacts with service recipients.

This is why the recent literature (as well as institutions) have started to understand that the standard model where the public administration identifies the needs, plans and designs the service and, in a later step, identifies through procurement tenders the civil society organisation that can manage the service maximising its quality, is becoming obsolete.

In this paper we provide three alternatives based on forms of total or partial co-planning and co-design such as i) the open co-planning model where the public administration and a network of civic organisations cooperate in all of the three (planning, design and management) stages, ii) the upstream /downstream tender co-planning model where the public administration selects with a tender the civic society organisation that will work with her in all of the three stages and iii) the downstream tender co-planning model where the open cooperation approach works at the first two (planning and design) stages, while the management stage is executed by the organisation winning a tender.

With a theoretical framework we analyse pros and cons of the four different approaches identifying the key offsetting factors in the marginal contribution of each new participant (on the revenue side) and coordination costs (on the cost side). In the rest of the paper we model more in depth coordination costs using the standard game theoretic approach of coordination failure in the Prisoner's dilemma and discuss some solutions to overcome it (cheap talks, pivotal players in an evolutionary perspective, punishment strategies, identification of proper win-win races). We finally identify in the definition of a "networking alliance" the intermediate approach between a contract and a fully rule-free solution that can increase the likelihood of cooperative equilibria.

Our research aims to introduce, shed lights and stimulate researchers reflection around a new emerging topics. Further developments could investigate more in depth the issue from a dynamic perspective or model coordination costs with a different game theoretic social dilemma perspective. The emergence and description of new co-planning and co-design best practices in the future can help to identify and discuss further potential solutions to the problem promoting further improvement in co-planning and quality of welfare services.

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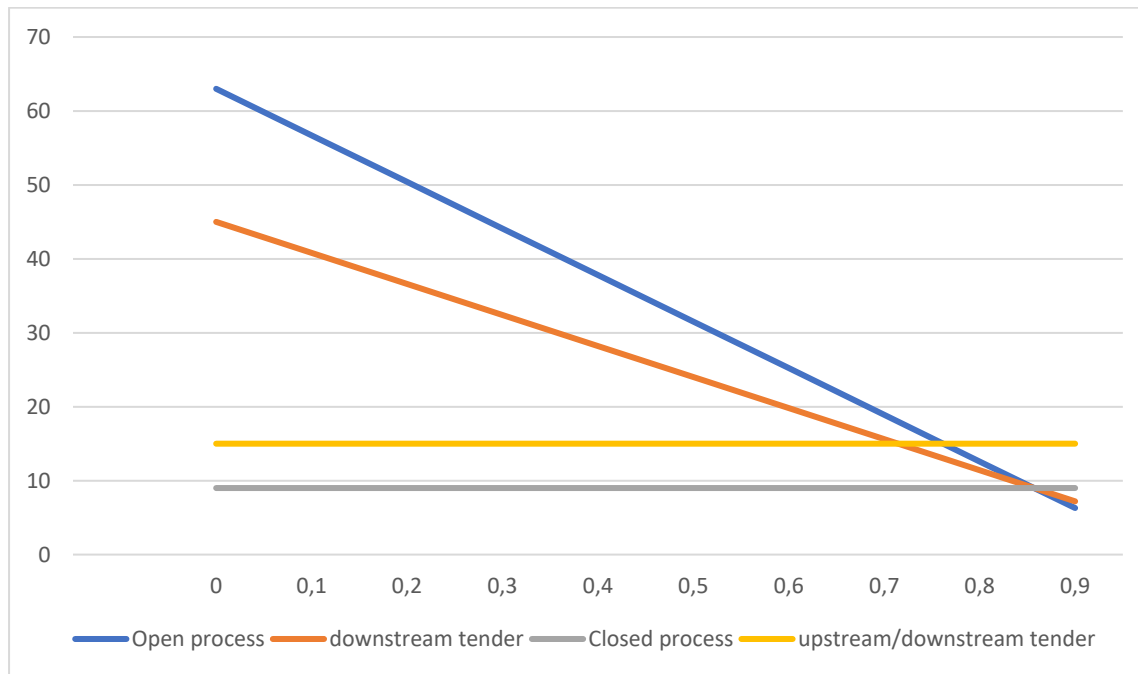
Table 1 Comparative analysis of the four models

	CONSISTENCY WITH PROCUREMENT RULES	ACTIVATION OF SYSTEM SKILLS IF INTRINSIC MOTIVATIONS HIGH	ACTIVATION OF SKILLS IF INTRINSIC MOTIVATIONS LOW (MONETARY INCENTIVE)	COORDINATION PROBLEMS	ADVANTAGE IF GOVERNMENT SKILLS ARE LIMITED
STANDARD NO CO-PLANNING MODEL	Full	Poor (as far as few involved)	Medium	Low	Low
OPEN CO PLANNING MODEL	Limited	High	Poor	High	High
UPSTREAM AND DOWNSTREAM TENDER CO-PLANNING MODEL	Full	Poor (as far as few involved)	Medium	Low	Medium
DOWNSTREAM TENDER CO-PLANNING MODEL	Full	Medium	Poor	Medium	High

Table 2 Welfare service values in the four models with zero coordination costs

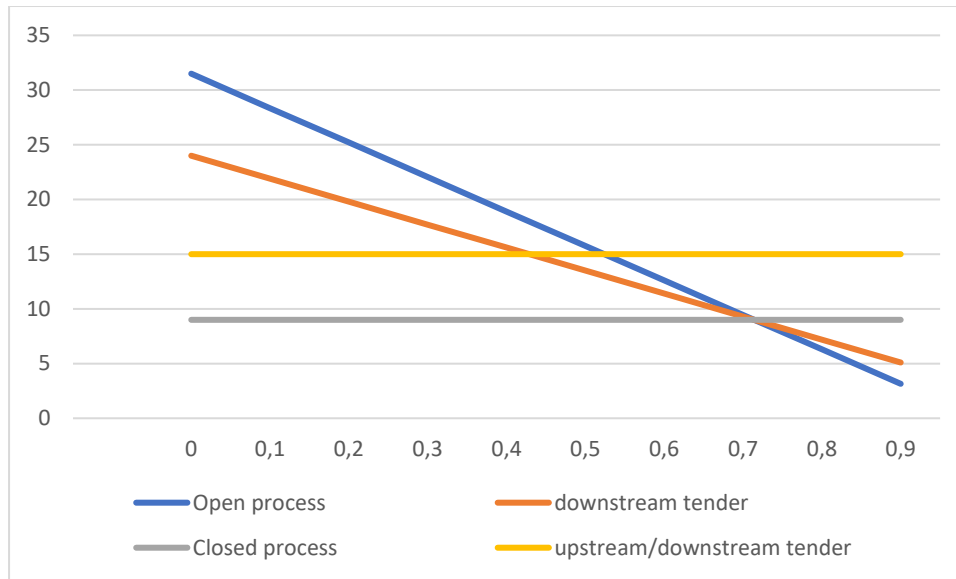
	Number of actors	Unit effort per actor	Unit IM per actor	Unit IEM	N. actors in phase 1	N. actors in phase 2	N. actors in phase 3	Outputs			Total
								Phase 1 (Programming)	Phase 2 (designing)	Phase 3 (managing)	
STANDARD NO CO-PLANNING MODEL	1	1	1	1	1	1	1	3	3	3	9
OPEN CO PLANNING MODEL	10	1	1	1	10	10	10	21	21	21	63
UPSTREAM AND DOWNSTRE AM TENDER CO-PLANNING MODEL	1	1	1	1	2	2	2	6	6	3	15
DOWNSTRE AM TENDER CO-PLANNING MODEL	10	1	1	1	10	10	1	21	21	3	45

Figure 1 Comparative performance of the four models under changing coordination cost and orthogonal (100%) marginal contribution



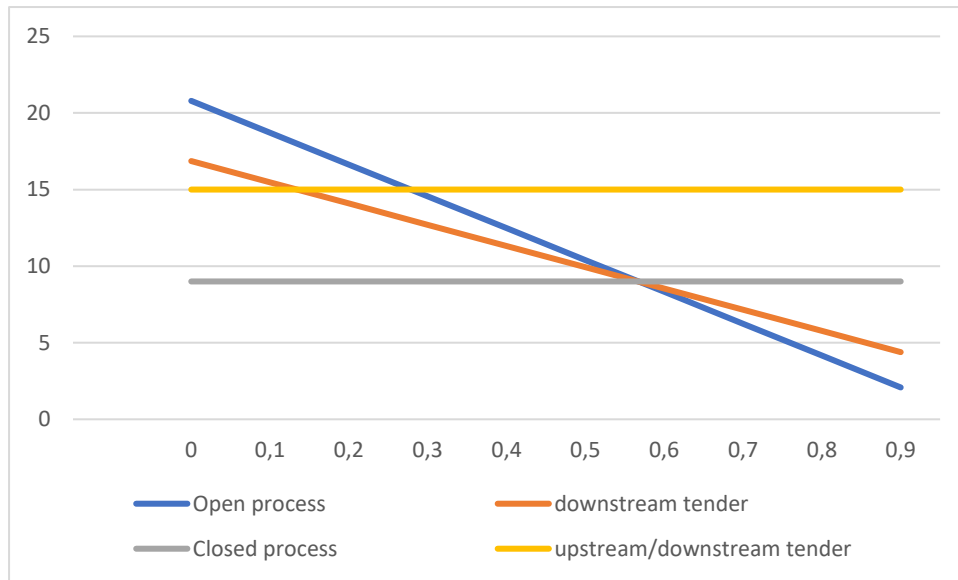
Vertical axis: value of the service output. Horizontal axis: coordination costs

Figure 2 Comparative performance of the four models under changing coordination cost and (50%) marginal contribution



Vertical axis: value of the service output. Horizontal axis: coordination costs

Figure 3 Comparative performance of the four models under changing coordination cost and 33% marginal contribution



Vertical axis: value of the service output. Horizontal axis: coordination costs

Table 3 Networking alliance ingredients

Identification of the quality of welfare service characteristics
Links of service characteristics with social and environmental goals (ie SDGs)
Identification of a set of indicators to measure the impact of the networking alliance action on the quality of service and on environmental and social goals
Definition of the set of admissible (invited) participants
Definition of governance rules of the networking alliance (ie. rotating coordinator, voting rules)
Timetable of participant meetings
Definition of participants contribution to the pact*
Definition of procedures in case of violation of the pact

- To be compatible with participants' participation constraints identified after outlining each participant utility function