

Exploring Open IT-based Co-creation in Government: A Revelatory Case Study

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Abstract: Co-creation has mostly been studied in the context of a single organisation and in dyadic, one-on-one relationships, while technological platforms now enable multiple parties to build on each other's assets. More open forms of co-creation could be very promising, especially in contexts where government organisations must do more with less, but empirical research is lacking. In this research-in-progress, we focus on a revelatory case where a public service co-creates an open IT platform with external organisations. We aim to explore the organisational capabilities adopted by both the public service and external organisations. This research-in-progress article reports on how we will use open innovation and technological platform literature as lenses for our interpretive case study approach.

Keywords: Open IT-based co-creation, revelatory case, co-creation, capability

1. Introduction

In 2013, VDAB, the public employment service of the Flemish region in Belgium, launched its open services programme. VDAB opened up its internal information technology (IT) services (including its job-matching engine and an online assistant to improve the quality of vacancies) for use by external organisations in their own IT systems. This fits with VDAB's aim of fulfilling its conducting function in the labour market and stimulating public, private, and non-profit labour-market actors to cooperate and innovate. The open services were developed in collaboration with external organisations (private recruitment and selection agencies, interim agencies, employers, start-ups, and other European public employment services) who co-created the offerings on the IT platform with VDAB. The development of VDAB's open services programme is an example of IT-based co-creation of value, a concept introduced by Kohli and Grover (2008), who described it as a form of co-creation where IT serves as a tool or an output (as is the case for VDAB's open services programme) or is instrumental in generating the co-creation of business value.

As in the development of VDAB's open services, we see more and more organisations co-creating IT-based value cooperatively (Kohli & Grover, 2008). In an increasingly digitised and networked world, the private and public sectors are faced with challenges and opportunities that cannot be addressed by single organisations, or sometimes even single industries (Furr, O'Keeffe & Dyer,

2016). Therefore, organisations no longer limit their focus to what they are capable of on their own but increasingly examine what they can do together with others, including partner organisations, customers, and start-ups (Viaene & Danneels, 2015).

The development of VDAB's open services platform is also linked to other trends on which the IT-based co-creation literature has not focused until now (Mandrella et al., 2016; Kohli & Grover, 2008; Sarker et al., 2012). First, while co-creation typically occurred in one-on-one alliances with customers or suppliers in the past, we now see open partner networks (Furr et al., 2016) innovating based on inflows and outflows of information to and from the network. Second, digital technologies create new possibilities for collaboration. Digital platforms enable new forms of co-creation (Kohli & Grover, 2008), such as allowing organisations to open their assets upon which others can innovate. Examples include open government data platforms such as the London DataStore, through which the city of London aims to openly exploit its data by co-creating an open data platform with the National Health Service, power companies, and utilities (Card, 2015).

By studying the revelatory case of VDAB's open services programme, we focus on a specific context for which open IT-based co-creation might be especially relevant but remains understudied. Many public administrations need to do more with less (Janssen & Estevez, 2013) but have the opportunity to become orchestrators of a network of organisations. However, little is known about what open IT-based co-creation looks like in the public administration context (Feller et al., 2011; Osborne et al., 2016; Voorberg et al., 2015).

For the finished research, our objective is to empirically develop an understanding of the development and first use of a technological platform through IT-based co-creation in an open partner network in the public administration context. Therefore, we investigate the revelatory case of VDAB and its five-year co-creation programme to develop open services through an interpretive case-study approach. In this research-in-progress, we report on the construction of the open innovation and technological platform lenses that we will use in the interpretive case study.

2. Literature

Knowledge of open IT-based co-creation is largely absent in the literature (Kohli & Grover, 2008; Mandrella et al., 2016; Sarker et al., 2012), suggesting that empirical research would be a suitable strategy to develop insights into this new concept. The literature on IT-based co-creation served as an initial guide to our research design and data collection. To identify the capabilities used by a public service to co-create IT-based value with an open partner network, as well as the capabilities used by the partner organisations, we will undertake an interpretive case study of VDAB's open services programme, employing open innovation literature and technological platform literature as a lens. These two literature streams provide insights on capabilities that may be important in open IT-based co-creation.

2.1. Open IT-based Co-creation

Open systems, hyper-competition, increasing specialisation, and shorter concept-to-market time frames make it increasingly difficult to build the infrastructure for new products and services and

bring them to market (Grover & Kohli, 2012). This is why organisations are driven to IT-based co-creation, avoiding investments in hard-to-duplicate assets and increasing the value they capture (Ceccagnoli et al., 2012). IT-based co-creation of value represents the idea that "IT value is increasingly being created and realized through [the] actions of multiple parties, value emanates from robust collaborative relationships among firms, and structures and incentives for partners to partake in and equitably share emergent value are necessary to sustain co-creation" (Kohli & Grover, 2008).

Sarker et al. (2012) describe the mechanisms underlying value co-creation as three different modes of co-creation: exchange, addition, and synergistic integration. In the exchange mode of co-creation, "two participants in an alliance develop value by each providing resources/competencies the other partner needs". In the addition mode, "one of the two parties builds on the contributions of the other in order to create value for both". In the synergistic integration mode, both sides "have to work together with each other, in a mutually reinforcing manner[;] surrender some of their own autonomy[;] have trust in the other to do what is in the interest of both sides of the relationship[;] and invest in the relationship rather than just look for gains in it" (Sarker et al., 2012).

2.2. Open IT-based Co-creation in Public Administration

Although public administration literature does not provide us with theoretical frameworks to study the phenomenon at hand, it does provide us with a focus on the specific context that might have an impact on the case. In the public administration context, co-creation is often used interchangeably with co-production (Voorberg et al., 2015), with both terms focusing mainly on the involvement of citizens as end-users in the design, management, delivery, and/or creation of public services (Osborne et al., 2016) rather than on co-creation with (multiple) organisations. In the research on co-creation and co-production, a technological perspective is often lacking (Osborne et al., 2016; Voorberg et al., 2015).

Open innovation studies in the government context often do not take into account the impact of digital technologies (Feller et al., 2011). The case of Challenge.gov (Mergel & Desouza, 2013), which crowdsources solutions to tackle complex public management problems, is a notable exception. One of the most eminent examples of technological platforms in government are open data platforms. But most research on open data focuses only on the technical aspects of opening up government information, while a focus on the reuse of open data (Maccani et al., 2015), the ways to foster its reuse (Van Veenstra & van den Broek, 2013), and the co-creation of open data platforms are missing (Attard et al., 2015; Maccani et al., 2015).

2.3. Constructing a Lens to Study Open IT-based Co-creation

Table 1 summarises how the open innovation and technological platform literature link to key aspects of open IT-based co-creation, and how they contributed to this study.

Table 4: Key Aspects of Open IT-based Co-creation in the Government Context

Aspect	Literature	Added value to open IT-based co-creation	Insights for this study
Opening assets for innovation through an open network	Open innovation (Chesbrough, 2012; Chesbrough & Bogers, 2014; Chesbrough et al., 2006)	Adds a focus on collaboration in an open partner network	Provides insight on capabilities that may be important in open IT-based co-creation: - Openness in terms of knowledge flows (inside-out and outside-in): internal and external sources for ideas and ways to market them - Moving from organisational to ecosystem-based logic
Designing an IT artifact that can be used by other parties	Technological platforms (Boudreau, 2010; Gawer, 2014; Ghazawneh & Henfridsson, 2013; Tiwana, 2015; Wareham et al., 2014)	Adds a focus on the technological platform that enables a network of organisations to build on another organisation's assets	Provides insight on capabilities that may be important in open IT-based co-creation: - Design platform openness (in terms of access and control of the platform) - Design platform governance (manage trade-offs through different types of control)

Open innovation is defined as “a distributed innovation process based on purposively managed knowledge flows across organisational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organisation’s business model” (Chesbrough & Bogers, 2014), in contrast to closed innovation, where “internal innovation activities lead to internally developed products and services that are then distributed by the firm” (Chesbrough, 2012). Open innovation places external ideas and paths to market on the same level of importance as that reserved for internal ideas and paths to market in the traditional closed innovation paradigm (Chesbrough et al., 2006; Gassmann, 2006). Technological platforms

Gawer (2014) defines technological platforms as "evolving organisations or meta-organisations that (1) federate and coordinate constitutive agents who can innovate and compete; (2) create value by generating and harnessing economies of scope in supply or/and in demand; and (3) entail a modular technological architecture composed of a core and a periphery".

3. Methodology

Given the objective of understanding the phenomenon of open IT-based co-creation from different perspectives, this research employs an interpretive approach (Klein & Myers, 1999; Walsham, 1995). We chose to study a revelatory case as a unique and exemplary source of in-depth insight into this phenomenon. To broaden our understanding of the phenomenon, we explicitly built a cycle of the

hermeneutic circle (Klein & Myers, 1999) into our research design by adopting an embedded case study approach (Yin, 2014).

The empirical setting of this research is the open services programme of VDAB, the public employment service for the Flemish region in Belgium (Flanders). VDAB offers eight different open services that continue to be further co-developed with over 20 partner organisations. We consider VDAB's open services programme to be revelatory for at least two reasons. First, it is a unique case, as VDAB is—to the best of our knowledge—one of the only public administrations co-creating with multiple partner organisations. Second, VDAB's case can be seen as exemplary because the public service is one of the forerunners in Europe in regard to the digital innovation of public services (Danneels & Viaene, 2015). Our prolonged collaboration with VDAB ensured the deep involvement necessary to enable a thick description (Walsham, 1995).

Table 5: Organisations and Profiles of the Interviewees

Organisation and brief description	Interviewee position/role
VDAB: Public employment service of the Flemish region in Belgium, offering employment services, training, and career guidance to society at large.	CEO CIO Open Services Programme Manager
Konvert: Family firm focusing on recruitment and selection.	CIO/ chief technology officer (CTO)
Randstad: Human resources (HR) service provider, focusing on temporary jobs and recruitment and selection, amongst others.	Business Performance Manager
Tempo-Team: HR service provider, part of Randstad Holding, focusing on temporary jobs and recruitment and selection, amongst others.	
Jobwalkr: Start-up that developed an app to inform users when relevant job opportunities are available in their neighbourhood.	The three owners of the start-up
Jobsplus: Public employment service of Malta.	IT Department Manager Labour Market Information Department Manager

Both researchers continually followed VDAB's digital innovation projects, of which the open services were a part, from January 2014 until June 2017 through bi-weekly or monthly steering committee meetings, workshops, and other more informal contacts. As a primary source of data, we conducted semi-structured, open-ended interviews with selected key personnel responsible for the open services programme. We were interested in both the perspectives of VDAB and partner organisations that co-created the open services. This is reflected in Table 3, which summarises the interviewees' profiles. A second important source of data was internal VDAB documentation. This not only included documentation on the broader context in which the open services programme occurred (notes of the steering committees and several workshops held between January 2014 and

June 2017) but also more specific documentation on the open services (e.g., internal and external presentations and payment model), contacts with the partner organisations, and website providing information to the partner organisations.

For data analysis, a dialogical process will occur between data and theory (Klein & Myers, 1999; Walsham, 1995). We reviewed the literature on IT-based co-creation, which served as a sensitising device (Walsham, 1995) to guide our data collection on VDAB's open services programme. After each interview, the first author wrote down impressions. The first author also generated more organised sets of capabilities after a group of interviews and discussed this with the second author. We decided that open innovation and the technological platform literature were the best lenses through which the data may be further analysed.

4. Case Description

Founded in 1989, VDAB is the public employment service for the Flemish region in Belgium (Flanders). It offers employment services, training, and career guidance to society at large. In 2013, VDAB started its open services programme. IT services that were used internally were opened, in small pieces, such that other labour market actors could embed them in their own IT systems. The development of the open services occurred in co-creation with external organisations, such as private recruitment, selection, and interim agencies, employers, start-ups, and other European public employment services.

To understand the open services, it is important to note that VDAB matches job candidates to vacancies based on competences rather than job titles to also include job seekers with a certain affinity to the job and for better reorientation towards shortages of occupations. VDAB is one of the forerunners in Europe in using and promoting competence-based job matching (European Commission, 2016).

Table 6: VDAB's Open Services

Service	Description
CV Vacancy Comeet Online Assistant Study Tree Wordcloud Matching Matching-as-a-service	Export CVs, if citizens agree to have their data transferred to partner databases Export vacancies Competences and competence templates Automatic comments on contradictory or incomplete items in a vacancy List of all recognised types of education Suggests words that are commonly associated with a vacancy the user is introducing Gives a list of matching candidates for a certain vacancy Same as above, implemented in the partner organisation's own systems

The first project that was part of the open services programme comprised the development of Comeet, which allows others to use VDAB's competences and competence templates in their own job-matching systems. Comeet was co-created with three recruitment and selection agencies. In 2014, Comeet was opened to other organisations. Today, VDAB offers eight different open services, summarised in Table 4, which continue to be further co-developed with over 20 partner organisations. Most open services are rather small (except for matching-as-a-service, where organisations can use VDAB's matching engine), and, in their current format, the services are paid.

In the next stages of this research-in-progress, we aim to use the two lenses constructed in this research-in-progress, to analyze the case and discuss its implications for research and practice.

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