New forms of collaboration between public and private sectors are emerging in which private parties take over roles traditionally performed by government organisations. As private and public organisations have different values and different ways of realising them, the question addressed in this paper is how business models can be utilised by organisations to meet both public and private interests. These business models have to address and balance challenges in public-private collaborations in order to meet public values like equality and accountability, while at the same time ensure profitability for the private parties involved. Essential ingredients of the business models include the creation of a common interest, an equal division of the costs and benefits and the ability to facilitate the various technologies and systems of the actors.

Challenges in Developing Public-private Business Models

Bram Klievink
Delft University of Technology

Marijn Janssen
Delft University of Technology

Keywords
Public-private networks, eGovernment, open government, governance, business models

“ The inherent challenge is realising both public values and profitability for businesses in one business model. ”

The inherent challenge is realising both public values and profitability for businesses in one business model.
1. Introduction

In light of budget reductions, many governments increasingly rely on activities performed by private organisations (Klievink, 2011; Salamon, 2002). Public and private organisations collaborate in a chain or network in order to realise or facilitate actions that transcend the boundaries of individual departments and organisations, as well as the boundaries between the public and the private sector (Milward & Provan, 2003). Private parties can act as intermediaries between government organisations and citizens or businesses and perform functions that have been traditionally performed by public organisations (Janssen & Klievink, 2009). They also take over functions and tasks that are traditionally performed by governments, thus affecting the way that organisations operate in relation to each other (Goldsmith & Eggers, 2004; Provan & Milward, 2001).

Public-private collaboration implies a multitude of interdependent departments and organisations (De Bruijn & Ten Heuvelhof, 2000; Powell, 1990). A fundamental tension underlying the business models of these interdependent organisations is the difference in objectives between the private and public sector organisations. Simply stated, private parties are aimed at being profitable whereas public parties serve the purpose of accomplishing a wide range of public values. Given this multitude of interdependence and different objectives, the question begs: Which business models can be used by the organisations in a public-private network to meet both their own interests and to contribute to the interests of the network, which is needed to reap both individual and shared benefits? Specifically, the question is which elements should be considered to make a public-private business model work for all parties.

The concept of a business model was first introduced by Timmers (1998) and originates from the dotcom era (Keen & Qureshi, 2006). The business model concept is about shaping the relationships between a strategy and information systems (Hedman & Kalling, 2003). As such, it influences the way in which organisations realise certain values (e.g. economic and public values). Recently, the unified business model has been introduced which describes variables that shape business models (Al-Debei & Avison, 2010). In the public sector, the term business model was only recently introduced (Janssen & Kuk, 2007; Janssen, Kuk, & Wagenaar, 2008) and has started being extended to organisational networks (Janssen & Kuk, 2007) in the area of public engagement (Panagiotopoulos, Al-Debei, Fitzgerald, & Elliman, 2012); nevertheless, the domain of public-private has not yet been explored.

In this paper, the background of business models for public-private collaboration is described and accompanying challenges are analysed based on practical experience in the Netherlands. Lessons learnt are then discussed followed by conclusions.

2. Business Models for Public-private Collaboration

Among the various existing business models, Bouwman, De Vos and Haaker (2008) developed the Service, Technology, Organisations and Finance (STOF). More recently, Al-Debei and Avison (2010) have developed a unified business model conceptual framework based on a comprehensive review of the relevant literature. They distinguish four primary business model dimensions with their respective elements that form an ontological structure describing a business model:

- **value proposition**, which demonstrates the business logic of value creation through the offer of products/services that satisfy the needs of their target segments;

- **value architecture**, an architectural blueprint for an organisation that allows the provisioning of products/services in addition to information flows;
• *value network*, in which an organisation enables transactions through coordination and collaboration among multiple organisations;

• *value finance*, a way in which organisations manage issues related to costing and pricing to optimise their revenue creation.

Each of these dimensions is explored in turn, first on a theoretical and second on a practical basis.

In terms of these business model dimensions, public-private collaborations can vary in the dimension they stress. Public-private collaborations, for example in the form of Public-Private Partnerships, were often set up to reduce costs for government (Rosenau, 1999). However, in the past decade, more emphasis has been placed on the idea of collaborating with private partners in order to improve the services of governments, for example though private sector involvement in creating a continuum of care (Milward & Provan, 2003) or by integrating service components of public and private organisations into integrated services (Klievink & Janssen, 2008). Figure 1 shows a situation in which a service consumer (a citizen of business) goes through a process that consists of multiple services from both government organisations and businesses. Traditionally, the service consumer had to identify and request the individual services on their own. The individual service providers each had their own business models. When organisations provide cross-organisational services that are offered in an integrated manner, they have to collaborate and joint public-private business models have to be designed.

![Figure 1: Cross-sector service delivery (Klievink, 2011)](image)

Collaboration with - or outsourcing to - private parties and other levels of government is seen as a way for governments to improve their operations (Milward & Provan, 2003). There are two basic value models for public-private networks as a whole, which are best described by the terms that Milward and Provan (2003) used when they identified two implicit theories of such collaborations: one focused on (competitive) contracting and one on integrating services, e.g. by providing a continuum of care. Recent literature on public sector reform primarily stresses a role for the private sector in collaboration with the public sector in order to realise public values and goals (e.g. Stoker, 2006).
This is mostly related to the continuum of care approach, which is also the focus of the platform described in the next section.

A key element of contemporary thinking is that governments should focus on realising and warranting certain values. The public sector is considered to be something fundamentally different than enterprises. However, instead of a harsh contrast of public versus private, contemporary literature stresses that public and private organisations have to collaborate in order to deal with the challenges that governments face today. In a shift from earlier work that emphasised the private sector as a role-model for the public sector (Osborne & Gaebler, 1992), current developments no longer focus on the idea of public versus private, but rather on public and private (Salamon, 2002; Stoker, 2006).

**Value proposition**

When focusing on public service delivery, the key value proposition in public-private business models is how the service offerings of the private sector can complement the services of public sector organisations (Figure 1). Klievink (2011) identifies three forms of public-private service delivery:

1. Joined-up service delivery: services from both the public and the private sector are bundled in one place (virtual or physical) and offered in a consistent way to service consumers.

2. Integrated service delivery: service consumers deal with one organisation only; the partners (public and private) play a role in the background (e.g. in the back offices), for example by processing service requests or by providing relevant information to the service providing organisation.

3. Intermediation: private organisations play a role in the service delivery channel structure; intermediaries can play various roles and thereby add value, for example by aggregating information, facilitating a process or service or by acting as a trusted third party (Janssen & Klievink, 2009).

**Value architecture and value network**

Given the important role that information and communication technologies play in government and private organisations alike, the value architecture of public-private collaborations is closely related to the value network. As many services are provided by fragmented organisations that rely on fragmented and isolated information systems, realising the value proposition of public-private business models means that the actors which play a role in a service have to collaborate. In such networks of multiple parties, joint action relies on collaboration between public and private parties (despite their differences in interests and goals) and is not coordinated solely by price mechanisms (as is typical for the private sector) nor solely by consciously designed administrative structures (as is typical for the public sector). Public-private networks rely more on ‘informal practices of coordination’, such as common interests, personal contact, loyalty and trust (Adler, 2001; Thompson, 2003). Apart from the collaboration between organisations, the fragmented information systems have to be made interoperable if services are to be supported electronically. The services offered to service consumers are interwoven with many tasks and processes in both the front- and back-offices of organisations in the network. The value architecture of a public-private business model is thus essentially a cross-organisation architecture, in which standards, interoperability and information sharing play a key role (Gil-Garcia, Chengalur-Smith, & Duchessi, 2007).
Value finance

Where financial elements work well for the private sector business models, this should be substituted by public values for the public sector (Janssen et al., 2008). Therefore, in terms of value finance, a difference between the public and private sector can be identified. As value is not created by a single actor in the network but by coordinating the organisations in the public-private network, public value creation is not exclusively the domain of the government (Jørgensen & Bozeman, 2007). While businesses focus on making money and profitability is essential for their long-term survival, public values like equal access might clash with such private sector values as competition and efficiency (Rosenau, 1999). Only at relatively high costs can access be given to all, which reduces the profitability for businesses. Consequently, private sector business models that focus on economic value might not be interested in providing equal access for all service consumers, a public value that is part of the business models of the public sector. Consequently, the value finance dimension of public-private business models depends on striking the balance between enabling businesses to find a sustainable business model and governments to realise public values. To achieve this, governments may have to facilitate the collaboration, for example by ensuring a level playing field for the actors in the network, by setting standards or by subsidising those parts that do not have a private sector business model.


The theoretical basis of public-private business models indicates that a number of challenges can be expected given the differences between public and private organisations. To explore these challenges, a project focused on developing an electronic portal for public-private service delivery was studied. Together with the project members (coming from government, business and academia), the challenges were identified as well as generic lessons on how they impact public-private business models. The project1 aimed to establish requirements and solutions for public-private service networks that provide integrated, demand-driven electronic services. Private parties complete the public sector service offerings so as to facilitate the service demand and processes of the service consumer. One implementation of the portal was on the electronic provisioning of social support in the Netherlands.

In 2007, the Dutch government introduced the Social Support Act (Wet Maatschappelijke Ondersteuning - WMO), an act which replaced a number of other acts on social support and aimed at assisting people with (temporary) special needs to participate in society. The focus of the act is on mitigating hurdles in and around a person’s house, on getting around locally and on meeting other people. Municipalities are responsible for providing support and tools for the people eligible for it, for example in the form of the provision of wheel chairs or house help (Rijksoverheid, 2010).

As part of this act, private parties provide the support, whereas public parties provide funding. Both public and private parties wish to have a low administrative burden in the process of providing support. To achieve this, the project was set up to explore and to develop an electronic portal for the provision of electronic services operated by a network comprising both public and private actors. Figure 2 illustrates the steps that are supported by the portal and the organisations involved.

1 http://www.b-dossier.nl.
Figure 2 shows that multiple organisations are involved in the process that the service consumer goes through and that is covered in the design of the electronic portal. As the service depends on the income of the service consumer, the tax administration is involved in the application process. If the income is within limits, a centre for assessing care entitlement (CIZ in Dutch) then assesses whether the service consumer is entitled to care, and if so, what kind. By using this as a basis, the service consumer can select a care provider based on the offerings that those providers are making. Once selected, a contract can be set up and care can be provided. Lastly, the social support agency (SVB in Dutch) can assist the service consumer with the administrative process.

Analysis of the business model for the electronic portal

The added value that the public-private collaborations aim to offer is to provide integrated electronic services. For the paper’s purposes, the service process of a consumer is defined as the process that a citizen or business (the service consumer) goes through when interacting with at least one government agency. The portal intends to offer the activities that are performed for the service consumer’s process in an integrated fashion. The technical challenge of realising such a portal is immense, but equally challenging is the fact that the public and private service providers have to collaborate, which requires the design of a public-private business model to accompany the portal design. In this section, the components of such a public-private business model are described for the electronic portal.

Value proposition

The value proposition of the portal offers a ‘continuum of care’ Milward and Provan (2003). Service consumers can select a social support provider (the specific focus of the study is on providing a home help service) among a number of providers. The value proposition is aimed at giving the service consumers a choice and not directly to have private providers compete with each other in order to lower costs (the user scenario and requirements of this case are more extensively described in Van Velsen, Van der Geest, Ter Hedde, & Derks, 2009).
The service consumer’s process spans multiple organisations and crosses the boundary between the public and the private sector. The portal is intended to be demand-driven and to therefore electronically facilitate the process of the service consumer. This requires the inclusion of relevant private organisations. These partners in service delivery contribute something to the service offering of the portal and thereby relieve the service consumer of the burden to identify required or optional steps in service delivery and to contact private organisations that perform those steps in the overall process. Thereby, the private parties improve the overall quality of the service by adding functionality or by completing a chain of related services. For the latter, the services of public providers have to be integrated or joined up with the services of private organisations, thus realising a one-stop shop.

Although partnering with private organisations offers the possibility to better facilitate the service consumer process by offering the services of multiple parties in one place, cooperation with private organisations is a challenge. This is because the actors involved have a certain degree of autonomy (and thus do not answer to hierarchical approaches of government), may have different goals and values (e.g. focus on serving the most profitable groups instead of those with the biggest need for care), and have to address accountability concerns (a public party must be able to relay accountability for the operations of the private parties).

Value architecture

During the project, a service architecture blueprint was developed consisting of a large number of services. Lankhorst et al. (2006) provide an overview of the most important services and functions of the architecture for demand-driven electronic service delivery. For the architecture in question, some services and functionalities are part of a shared architecture. The actual provision of parts of the integrated service, the adaptation to the demand of the service consumer and the integration of information from several sources are all examples of functions that are performed by the individual service providers involved in the cross-agency process. These service providers are the organisations that provide (parts of) the service-delivery. The challenge lies in determining what is to be done collaboratively to gain mutual benefits and what individual parties need to do.

The overall architectural challenge is to allow public and private partners to cooperate in a service network. Partners can connect to the architecture by using standardised interfaces developed in the shared enterprise architecture for the portal. To reach the ideal of a flexible architecture for public-private service networks, the interfaces should be uncoupled from organisational processes and systems. This allows partners to plug in or out of the service network, analogous to an electricity network where you just connect by using the power plug and - if necessary - adaptors to translate one format into another. The participants of the study identified a number of notable challenges for interoperability. These challenges include lack of standardisation, coping with legacy systems and the fact that the organisations all have their own architectures. The directions that the different architectures offer can be conflicting or lack a focus on collaboration.

Value network

Collaboration between parties is necessary, as the government has decided that the tasks to assist the target groups are best executed by private care providers. A key assumption is that private parties can operate at lower cost, as they will be competing with each other. Nevertheless, both private and public parties have the shared objective to make the services available in a portal and in supporting care users to find the appropriate services. In the context of the social support act, the social security facility of home help for people that cannot fully take care of their housekeeping themselves has been decentralised to the municipalities. As a result, the implementation of this act may vary by municipality. Furthermore, the citizen is an important actor, as are the public and private organisations involved in the network as presented in Figure 2. Note that this is a selective
view on the situation, chosen to demonstrate the electronic service delivery through a portal. In practice, these organisations are also part of other networks, and other organisations interact with this network. Furthermore, in practice, networks can have a different composition in other situations.

4. Challenges in Public-private Business Models

In the process of the functional and technical development of the portal, a number of challenges were observed that need to be addressed in a public-private business model. The notion of the necessity for collaboration to improve the service offering is an important starting point, which may be well covered by a generic business model. Nevertheless, when public and private organisations have to work together in operational, ICT-supported, service delivery processes, the level and complexity of interdependence rise. The business models have to heed these challenges and the generic challenges may have to be explicitly addressed in the business models themselves. The aforementioned challenges that arose during the project and the impact of the public-private business model of the electronic portal are presented in this section.

Fragmentation and autonomous actors

One of the main challenges that came up was that the organisations involved in the portal were all relatively autonomous. The portal is not developed in a green field situation; organisations can operate without the portal. Still, those organisations are the ones that have to develop a portal that is able to accommodate each partner, technically, but also in the goals and interests of each organisation. Furthermore, such organisations often have fragmented and ‘silod’ information systems and diverse processes, which need to act together to realise integrated services.

Improving service delivery by providing online portals is a goal of the government. More specifically, in this case it is the goal of the central government, whereas it needs to be realised by multiple organisations from other levels of government and from the private sector. However, municipalities have limited budgets and a large number of public tasks to fulfil. The strategies of the individual organisations can conflict with those of other organisations. Even more, many government organisations consist of multiple departments with relatively high degrees of autonomy. If each of these departments were to focus on developing cross-organisational service portals with parties outside their own organisation, the alignment of the organisational business models and the various other business models would be additionally challenging.

Division of cost and benefits: creating incentives for collaboration

Public-private business models often bring complex arrangements to distribute costs, benefits and share risks. This is because the actors involved in these collaborations often have various goals, values and interests. In the business model, it is important to develop a division of costs and benefits that respect the basic interests of all actors. For public organisations, this is focused on realising public values, such as an efficient spending of public funds, improved service and accountability. Also, for the private parties it may be beneficial to focus their service delivery on a specific segment of service consumers that is likely to yield the highest revenue. Government agencies, however, have the responsibility to warrant that everyone entitled to a service is served. Therefore, even in the collaborative setting of the portal development, the relationships between the public and the private partners are not entirely on a peer level, as government organisations take the lead. The relationship between the two sectors resembles a principal-agent relationship. In this way, the government agencies retain some control over private sector involvement. However, if private organisations decide not to collaborate in the network, or no longer do so, the continuity of the shared service delivery can be in danger. In any private sector involvement case, there needs to be
something in it for the private partners and it is often up to the public partners to ensure that the incentives for the private sector enable sustainable revenue models but do not conflict with the values and benefits for the stakeholders in public service delivery, such as the service consumers, politicians and tax payers.

**Agreements and shared expectations**

In the portal, agreements about service levels, the monitoring of quality, allocation of responsibilities and ways of dealing with potential issues have to be made in order to guarantee public value. During portal development, a number of issues arose that needed to be handled in agreement with the governance structure of the portal. Even if such issues cannot be dealt with and therefore are not considered in the development of the portal, this needs to be made explicit, lest the expectations of partners are higher than can be realised.

The issues involve the question of who is responsible for developing, maintaining and funding a new service portal, which is a service channel apart from the existing structure that organisations have in place for communicating with citizens and businesses. In addition, as organisations already have structures and systems in place, the way they should interconnect with such a portal cannot always be prescribed, but has to accommodate this variety of systems. Furthermore, in the development of the portal, government organisations raised concern over sharing privacy sensitive information with private partners. However, not willing to share information with private parties results in more work for the service consumer, as integration is harder when shared information is limited. The way that these issues are dealt with should be part of agreements for clarifying to all stakeholders how such issues are taken up in the operations of the portal.

**Goals and values of actors**

As governments need to cultivate fair opportunities for every private organisation providing the same service, the portal needs to be open to many potential providers. Every provider of the service should - in principle - be able to join the portal and the portal should facilitate this. However, as the individual (private) providers cannot warrant the entire process, it is up to a government organisation to ensure that the task the network of organisations is required to carry out is realised and public values are safeguarded.

In general, the goals and interests of the organisations involved in the portal may be conflicting, even when the planning and enactment of the portal itself is a result of a common goal or shared interest, or when the portal fulfils different goals of the organisations that collaborate on the portal. For government, upholding and realising public values should be most important. From a public value perspective, the goals and interests of private organisations may be conflicting with public values such as transparency (which might threaten the competitive position of companies), equality of access for every potential service consumer (conflicts with economic rationale of focusing on profitable customers), and privacy. These threats to public values need to be mitigated.

Furthermore, public organisations can have various reasons for entering a collaborative portal. Some organisations may be forced by law or through hierarchy to join up with other public organisations and offer their services via a one-stop shop. For another organisation, its participation in a joint service delivery portal allowed it to realise (existing) goals better. Thus, public organisations can also have different interests and goals for collaborative networks. Moreover, even though the government partners in a network have to warrant and realise public values, this is not limited to the realisation of such values for the final service consumer only. An important value is that of good governance: the government parties in the network have to be a reliable partner for the private organisations in the network.
Allocating accountability for the joint service in the context of the portal is a challenge. Networks have to specify the roles and responsibilities of the parties involved. Furthermore, it must be determined who is accountable for failures such as exceeding lead-times. This challenge also extends to determining which partner can provide accountability information to stakeholders, if necessary. It should be specified which actor takes the lead and which actor is responsible for monitoring the cross-agency process and the quality of the services provided.

Maintaining transparency and accountability is a challenge, especially when including private partners. Public organisations depend on the private organisations for the realisation of public services, but also need to be able to allocate accountability throughout the chain of operations. Therefore, public-private collaborations should jointly be held responsible for the performance. However, there is some evidence in the case studied that the democratic and accountability costs for public-private collaborations are largely allocated to the public partners. As a result, it is therefore necessary to clearly allocate roles and responsibilities.

Dealing with fragmented information

To ensure availability of all necessary information at the right place in the network, a shared and up-to-date basis of information or data is essential. The exchange of data or information, such as handing over a case to partners for their part of the process, and the interactions between service providers are largely automated activities. Given the fragmentation of organisations, the information architecture is often very fragmented as well. As a result, (every department within) an organisation may have its own information systems, its own formats, guidelines, etc. Interoperability is therefore very important, as it is necessary to coordinate the various sources of data, information and systems. Information sharing is a powerful coordination mechanism for collaborative government (Gil-Garcia et al., 2007).

5. Conclusions

Collaboration between public and private sectors is taking on new forms, thus resulting in private parties assuming roles traditionally carried out by government organisations. In this paper, such collaboration was presented in the form of a public-private service delivery portal. As private and public organisations have different values and different ways of achieving them, the question addressed in this paper is how business models can be utilised by organisations. More specifically, the concept of a business model was employed to identify challenges in public-private service provisioning that impact the business models of public-private collaborations. This is based on the premise that the business models of joint public-private technological artefacts (like the portal in the study) are configured and employed to achieve the strategic goals of the actors involved.

The analysis of the challenges show, for example that the design of the business model has to respect the autonomy of the concerned organisations. Furthermore, the collaboration is not permissive: public services must be provided, which might conflict with the need to respect the autonomy of the actors. For example, if private service providers may choose which potential service consumers they serve, this autonomy may lead to a situation in which none of the providers offers services for a specific request, resulting in a situation in which a public service (care) is not provided. This potential conflict is also found in the need for flexibility, a result of the idea that multiple providers of the same type of services should be able to join the portal in order to deliver their services through it. Continuing from the challenges identified in the preceding section, three overarching themes which impact public-private business models can be identified:
1. The goals and interests of the organisations involved in the portal may be conflicting, even when the planning and enactment of the portal itself is a result of a common goal or shared interest, or when the portal fulfils different goals of the organisations that collaborate on the portal.

2. The organisations in public-private networks come from different sectors and therefore have different types of stakeholders that may provide conflicting directions for the collaboration.

3. Public values have to be warranted and may depend on the quality of a private organisation. Agreements about service levels, the monitoring of quality, allocation of responsibilities, and ways of dealing with potential issues have to be made in order to guarantee public value.

In brief, public-private business models rely on having a division of costs and benefits that respect the basic interests of all actors. For public organisations, this is focused on realising public values (including an efficient spending of public funds) and accountability. For private organisations, a sustainable revenue model is required. Finding the middle ground between the differences and bringing together the actors based on mutual benefits are essential for finding public-private business models that work. However, making them work also requires clear agreements, regular consultations and alignment, and a clear division of roles and responsibilities. The inherent challenge is realising both public values and profitability for businesses in one business model. The challenges that, according to the analysis, impact the formation or selection of businesses models for public private collaborations are briefly presented in Table 1.

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Public private business model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational fragmentation</td>
<td>Value proposition</td>
</tr>
<tr>
<td>Autonomy of actors</td>
<td>Value architecture</td>
</tr>
<tr>
<td>Cost &amp; benefit distribution</td>
<td>Value network</td>
</tr>
<tr>
<td>Shared expectations</td>
<td>Value finance (values)</td>
</tr>
<tr>
<td>Creating incentives</td>
<td></td>
</tr>
<tr>
<td>Different goals and interests</td>
<td></td>
</tr>
<tr>
<td>Potentially clashing values</td>
<td></td>
</tr>
<tr>
<td>Fragmented information</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Overview of challenges impacting public-private business models

Further research on the factors that influence public-private business models is required; even though the overall value proposition is clear (public and private organisations can complement each other in their service provisioning), when these collaborations are put to practice, a number of challenges arise that need to be acknowledged and covered. Table 1 should be expanded, refined and tested for other businesses models for public private collaboration.
6. References


Author

Bram Klievink  
Delft University of Technology  
A.J.Klievink@tudelft.nl  

Marijin Janssen  
Delft University of Technology  
M.F.W.H.A.Janssen@tudelft.nl  
http://www.epractice.eu/en/people/15578