Public Sector Entrepreneurship and the Integration of Innovative Business Models

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Chapter 3
Public Organizations and Business Model Innovation:
The Role of Public Service Design

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ABSTRACT

Improvement of public services and raising the citizens' quality of life is one of the biggest concerns of public sector. Changing the way public organizations operate could support such an improvement. In this regard, business model framework is an emerging field of research that could shed some new light. Yet, in case of public organizations, business model innovation remains heavily underexplored. The purpose of this chapter is threefold, to indicate and discuss the opportunities of adapting the business model innovation theory to public organizations, to conceptualize its theoretical framework, and to explore the role of public service design in the process of innovating public sector business models.

INTRODUCTION

Governments, authorities and all other public sector organizations pursue the ideas how to improve public services and raise the citizens quality of life. In this regard the researchers and practitioner of public management recognized innovation as significant driver to improve performance of delivering public services (Hollanders et al., 2013; Hughes, Moore, & Kataria, 2011; Innobarometer 2010 Analytical Report Innovation in Public Administration, 2011). Although, there are various types of innovation in the public sector (de Lancer Julnes, 2016; Lewandowski, 2015), one of the most recent research area is innovation pertaining to the business model (Zott, Amit, & Massa, 2011a). Yet, it remains underexplored not only in the business sector organizations, (Zott et al., 2011a), but, as Julnes, Gibson, and Park (2016) implicitly predict, also in the public organizations. Thus, there is a need to investigate business model innovation in the public sector.

The main aims of the chapter are: (1) to indicate and discuss the opportunities of adapting the business model innovation theory to public organizations, (2) to conceptualize the theoretical framework of

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business model innovation for public organizations, and (3) the role of public service design in this the process of innovating public sector business models.

The chapter is structured as follows. The background section outlines the specificity of business model innovation as a research field located on the overlapping area of its two baseline theories: innovation theory, and business model theory. Then, according to the same scheme, the third section investigates the construct of public sector innovation, and public sector business model. Its main output – the General Framework of Public Sector Business Models - is then used to conceptualize how public sector business models may be innovated. The final point is made in the fourth section, where Public Service Design is presented through the lens of public sector business model as an important strategy to increase citizens quality of life. In the end conclusions summarize the main findings.

BACKGROUND

Innovation

Innovation has been deeply explored over the last couple of decades in several different fields of research, such as business and management, economics, organization studies, innovation and entrepreneurship, technology, science and engineering, knowledge management and marketing (Baregheh, Rowley, & Sambrook, 2009; Cooper, 1998). Despite the variety of research disciplines, the classic Schumpeterian definition of innovation says that it is an introduction of a new production method, product or its quality, the opening up of a new market or a new source for raw materials or semi-manufactures, or the creation of a new organizational structure in industry (Schumpeter, 1934, p. 66). According to Damanpour (1996) innovations encompass new products or services, new process technology, new organization structure or administrative systems, or new plans or programs pertaining to organization members. In turn, in the Oslo Manual (OECD/Eurostat, 2005) innovation is conceived as "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (p.46). Those recognized definitions only implicitly refer to the components of a business model framework, but not acknowledge business model innovation as such. Even more recent and comprehensive approaches not always do that (Baregheh et al., 2009; Cooper, 1998).

Cooper (1998) claims that every innovation is defined at the same time by three dichotomous dimensions, encompassing product versus process, radical versus incremental, and technological versus administrative. Baregheh et al. (2009) examined 60 definitions from aforementioned fields, and synthesized the six attributes of the innovation process:

1. Stages of innovation: creation, generation, implementation, development, adoption;
2. Social context: organizations, firms, customers, social systems, employees, developers;
3. Means of innovation: technology, ideas, inventions, creativity, market;
4. Nature of innovation: New, improve, change;
5. Type of innovation: Product, service, process, technical;
6. Aim of innovation: succeed, differentiate, compete.

In turn, Crossan & Apaydin (2010) presented the complex multi-dimensional framework of innovation, based on a very broad literature studies. Their model distinguishes three groups of determinants and two dimensions of innovations. According to this innovations are determined on three levels:

1. Individual and group level focused on leadership, encompassing: Chief Executive, Officer's, Top Management Team's and Board of Directors' ability and motivation to innovate;
2. Organizational level focused on managerial levers, embracing: mission, goals and strategy, structure and systems, resource allocation, organizational learning and knowledge management, and organizational culture;
3. Process level focused on business processes, including: initiation and decision-making, portfolio management, development and implementation, project management, commercialization;

Two dimensions of innovations point out their ambivalent nature. On the one hand, innovation as a process is associated with: an individual, group or firm level, a driver, such as resources or market opportunity, a top-down or bottom-up direction, a source, such as invention or adoption, a locus – firm or network, and a tacit or explicit nature. On the other hand, innovation is also an outcome, described by: a form, such as product, service, process or business model, an incremental or radical magnitude, a referent, such as firm, market or industry, and an administrative or technical type (Crossan & Apaydin, 2010). This complex and comprehensive approach acknowledges business model as a form of innovation, in contrast to previous cited works.

Business Model

In general, business model depicts the rationale of how an organization creates, delivers, and captures value (economic, social, or other) in relationship with a network of exchange partners (Massa & Tucci, 2013). Others define it as a unit of analysis to describe how the business of a firm works (Frankenberger, Weiblen, Csik, & Gassmann, 2013), or as a system describing how the pieces of a business fit together (Magretta, 2002). Over a decade ago, Pateli & Giaglis (2004) identified eight sub-domains of research in the area of business models, such as: definitions, components, taxonomies, conceptual models, design methods and tools, evaluation models, adoption factors and change methodologies.

Researchers made quite many attempts to conceptualize the business models framework (Afuah & Tucci, 2000; Al-debei, El-Haddadeh, & Avison, 2008; Chesbrough & Rosenbloom, 2002; Frankenberger et al., 2013; Linder & Cantrell, 2000; Mahadevan, 2000; Papakiriakopoulos, Poylumenakou, & Doukidis, 2001). But two approaches gained more recognition – one tries to provide most simple framework (Frankenberger et al., 2013; Johnson, Christensen, & Kagermann, 2008), and the other complex one (Osterwalder & Pigneur, 2010; Osterwalder, Pigneur, Bernarda, & Smith, 2014; Wirtz, 2011).

Johnson's et al. (2008) study outlines four elements of successful business model: customer value proposition, profit formula, key resources, and key processes. Customer value proposition encompasses identification of the target customers, their problems and needs related to particular jobs they do, and offering addressed to satisfy the problem or fulfil the needs. Profit formula, in turn, is associated with a revenue model, cost structure, margin model and resource velocity. Key resources are those, which are necessary to deliver customer value proposition profitably, and may include, among others, people, technology, partnerships, brand. Those resources are transformed in key processes, consisting of the processes, metrics, and norms (Johnson et al., 2008). Frankenberger (et al., 2013) proposed to turn

similar four major dimensions of business model architecture into questions: Who is the customer? What is offered to the target customer (what the customer values)? How to build and distribute the value proposition? Why the business model is financially viable?

Wirtz (2011) made a systematic overview of the business model concept, and proposed an integrated business model consisting of nine partial models divided into three main components—strategic, customer and market, value creation. The strategic component comprises three models regarding the strategy (mission, strategic positions and development paths, value proposition), resources (core competencies and assets), and network (business model networks and partners). The customer and market components consist of customer model (customer relationships/target group, channel configuration, customer touchpoint), market offer model (competitors, market structure, value offering/products and services), and revenue model (revenue streams and revenue differentiation). The value creation component encompasses production of goods and services (manufacturing model and value generation), procurement model (resource acquisition and information), and financial model (financing model, capital model and cost structure model).

A more recognized and applied complex business model framework also distinguishes nine building blocks (Osterwalder, Pigneur, & Tucci, 2005), but is conceptualized as the business model canvas, showing how the components fit together (Osterwalder & Pigneur, 2010). Table 1 contains a comparison of the components of chosen simple and complex business model frameworks.

Most recently customer value proposition design has been developed, and comparing to Johnson's et al. (2008) proposition, comprises six building blocks, which are a detailed description of the value propositions and customer segments, two components of Business Model Canvas (Osterwalder et al., 2014). Value proposition is composed of the products and services offered to the customer, the relievers

Table 1. Simple and complex view of business model components

Complex (according to Business Model Canvas) (Osterwalder & Pigneur, 2010)	**Simple (Johnson et al., 2008)**	**Simple (Frankenberger et al., 2013)**
Customer segments that an organization serves	Customer value proposition	Who is the customer?
Value propositions that seek to solve customers' problems and satisfy their needs		What is offered to the target customer (what the customer values)?
Channels which an organization uses to deliver, communicate and sell value propositions	Key resources	How to build and distribute the value proposition?
Customer relationships which an organization builds and maintains with each customer segment		
Key resources as the assets required to offer and deliver the aforementioned elements		
Key partnerships being a network of suppliers and partners that support the business model execution by providing some resources and performing some activities		
Key activities which are performed to offered and deliver the aforementioned elements	Key processes	
Revenue streams resulting from value propositions successfully offered to customers	Profit formula	Why the business model is financially viable?
Cost structure comprising all the costs incurred when operating a business model		

of customers pains, and the creators of customer gains pertaining to the tasks and jobs he or she needs to accomplish with the assistance of the offered product or service. Thus, on the customer's side are the jobs, pains and gains related to doing the jobs.

Especially adoption factors and change methodologies of business models (Pateli & Giaglis, 2004; Scott, 2015) justified the need and pointed some directions very relevant for further exploration, such as, among others, sustainable and circular business models (Jong, Engelaer, & Mendoza, 2015; Joustra, de Jong, & Engelaer, 2013; Roome & Louche, 2015; Stubbs & Cocklin, 2008) and business model innovation (Amit & Zott, 2012; Gambardella & McGahan, 2010; Gauthier & Gilomen, 2015; Malhotra, 2000; Mentink, 2014).

Business Model Innovation

Business models foster innovation in two ways. On the one hand they are considered as vehicles of innovative products to appropriate markets, as companies commercialize innovative ideas and technologies through their business models. On the other hand, they are a new subject of innovation, distinct, albeit complementary, to traditional types of innovation such as product, process or organizational (Massa & Tucci, 2013; Mitchell & Coles, 2003; Zott et al., 2011a).

Massa and Tucci (2013) propose that BMI may refer to the design of novel BMs for newly formed organization, or the reconfiguration of existing BMs. Business model design (BMD) refers to the entrepreneurial activity of creating, implementing and validating a BM for a newly formed organization. Business model reconfiguration (BMR) means reconfiguration of organizational resources (and acquiring new ones) to change an existing BM. The output of design and/or reconfiguration must be novel or unique at least to some extent. Although, BMI is a set of business model design and/or reconfiguration, both of them imply different activities and conditions. Conditions of BMD are typical for new organizations, like lack of resources or legitimacy for instance. BMR is accompanied by problems typical for existing, more mature organizations, like for example management process, models of organizational learning and change (Massa & Tucci, 2013). It is strictly related to the concept of entrepreneurship, which Sharma & Chrisman (1999), define as the "acts of organizational creation, renewal, or innovation that occur within or outside an existing organization" (p.18).

Giesen, Berman, Bell, and Blitz (2007) identified three types of BMI:

1. Industry model innovation, consisting of innovation to the industry value chain through moving into new industries, redefining existing ones or creating new industries;
2. Revenue model innovation, pertaining to the new way revenues are generated;
3. Enterprise model innovation, changing the role of a firm in a value chain.

Enkel and Mezger (2013) investigated imitation of business models across industry boundaries, and showed that companies can facilitate cross-industry innovation on business model level through a process of abstraction, analogy identification and adaptation.

From a managerial point of view BMI encompasses innovation the content (nature of activities), the structure (how activities are linked and their sequence), and the governance (how activities are controlled and how responsibility for them is distributed) (Zott & Amit, 2010). This taxonomy has been somewhat simplified, and business models may innovate through adding new activities, linking activities in novel ways, and changing which parties perform an activity (Amit & Zott, 2012).

One of the emerging directions on BMI research focuses on the impact of BMI on sustainability (Massa & Tucci, 2013; Stubbs & Cocklin, 2008) and circular economy (Lewandowski, 2016; Mentink, 2014). The other, already much more recognized pertains to open innovation (Chesbrough, 2013), which requires the adoption of new, open business models (Aranha, Abudd, Garcia, & Corrêa, 2015; Chesbrough, 2007, 2010). Moreover, such models may impact business model innovation in complementary markets, due to the reconfiguration of downstream activities and capabilities (Gambardella & McGahan, 2010; Zott, Amit, & Massa, 2011b). Business model configurations depend on the way the activities of external innovators are organized, usually either as a collaborative community or as a market (Boudreau & Lakhani, 2009; Zott et al., 2011b).

Business model management turns out to be challenging in several ways. Many authors emphasize the need and importance of the langue issues and explanation of a business model (Euchner, 2014; Massa & Tucci, 2013; Spieth, Schneckenberg, & Ricart, 2014). There are also problems related to managing multiple business models (Markides & Charitou, 2004; Massa & Tucci, 2013) or pertaining to the fact, that a business model itself can become part of intellectual property (Rivette, Nothhaft, & Kline, 2000).

Many barriers to innovate business models exist, but may be overcome or reduced by various facilitators (Zott et al., 2011b). Spieth, Schneckenberg, and Matzler (2016) reviewed current perspectives on business model innovation and proposed a role-based approach as an alternative view to conceptualize business models and to get better understanding of the processes of business model innovation. They also showed, that such processes need much wider and detailed attention. Nevertheless, one of the key factors is to determine if the company needs to alter its business model (Johnson et al., 2008).

There are several arguments for the yes answer, to the question if business model innovation is also applicable to the public sector. Firstly, every organization has a business model as long as it creates, delivers and captures value (Kaplan, 2011). Secondly, some previous studies have already confirmed usability of business model framework for public organizations, however they applied strictly private sector business model framework (Coblence, Normandin, & Poisson-de Haro, 2014) or preceded business model theory (Alford, 1993). Thus, adaptation of a business model framework to public organizations, and conceptualization of such a model, remains in its very early stage and needs further elaboration. Because business model innovation is an overlapping field of two major theories, such as business model theory and innovation theory, in the next section of the chapter both of them will be outlined to propose the conceptualization of public sector business model innovation.

TOWARDS THE CONCEPTUAL FRAMEWORK OF PUBLIC SECTOR BUSINESS MODEL INNOVATION

Public Sector Innovation

Public sector innovation has been claimed an important instrument for improving public sector performance (Hollanders et al., 2013; Hughes et al., 2011). It remains acknowledged and recently relatively well cognized as for rather new area. Some main directions encompassed three perspectives: internal, associated with employees and managers, comparative, focused on good practices and benchmarking, and civic, pertaining to citizens and their perception of innovation (Vigoda-Gadot, Shoham, Schwabsky, & Ruvio, 2008).

One of the early definitions of innovation in the public sector considers it as "the conception and implementation of significant new services, ideas or ways of doing things as government policy in order to improve or reform them" (Glor, 2000, p.4). Other, perceives innovation in governance as a "creative idea which is successfully implemented to solve a pressing public problem" and public management innovation as "development of new policy designs and new standard operating procedures by public organizations to address public policy problems" (Alberti & Bertucci, 2006).

There are different types of innovations in public administration. Institutional innovations focus on the creation of new institutions or the renewal of established ones. In turn, organizational innovation is an introduction of new working procedures or management techniques in public administration. Improvement of the quality of public service delivery remains in the scope of process innovation. Conceptual innovation introduces new forms of governance, like interactive policy-making, engaged governance, people's budget reforms, horizontal networks, for instance (Alberti & Bertucci, 2006). Although, public sector innovation is much more varied and many other typologies exist, both for public sector in general and for particular sub-sectors (de Lancer Julnes, 2016; Lewandowski, 2015; Pollock, 2008). General typologies comprise, for instance, nine categories of Innovation, such as: agencies, partnerships, horizontal integration, good fiscal management, public service revitalization, devolution and decentralization, service improvement, systems and process improvements, and regulatory change (Armstrong & Ford, 2001). Borins (2002) distinguished bottom-up innovation, politically-led responses to crisis, and organizational turnarounds engineered by newly appointed agency heads. In turn, sub-sector-specific innovations pertain, among others, to pedagogy and education (Pollock, 2008), culture (Lewandowski, 2015; Zolberg, 1980), health care (Omachonu & Einspruch, 2010), or state-level laws (Colvin, 2006). The variety of typologies is just one of many differences between innovation in public and private sector organizations (Boyne, Gould-Williams, Law, & Walker, 2005; Kożuch, 2009; Ross, Kleingeld, & Lorenzen, 2004), although it well depicts the diversified specificity of public sector innovation.

Despite the differences, the research on the antecedents (enablers and barriers in particular) of public sector innovations (e.g. Borins, 2002; Ross et al., 2004) implicitly supports the argument, that business model could be considers as analytical framework for innovation in the public sector.

Specificity of Public Sector Business Model

There are different approaches to the components and framework of a business model (Johnson et al., 2008; Osterwalder & Pigneur, 2010; Wirtz, 2011). They vary from the most simple – consisting of four pillars (Frankenberger et al., 2013; Johnson et al., 2008) to those encompassing nine or even more components (Lewandowski, 2016; Osterwalder & Pigneur, 2010; Wirtz, 2011). The multi-component ones more are useful for practical, applicative purposes and for advanced studies. Four-component BM are more feasible for early conceptualization of the differences between business models for private profit-oriented organizations and public organizations, and have been already applied as analytical framework for the latter (Coblence et al., 2014).

Key differences between business model and public sector business models, summarized in Table 2, pertain to two out of four components outlined by Johnson et al. (2008): profit formula, and customer value proposition.

Table 2. Key differences between BM and PSBM

BM Component	Business For-Profit Organizations		Public Organizations	
	Specificity	Example	Specificity	Examples
Profit formula	• Always highly related to customer value • Dominant logic is exchange logic • Focused on economic capital (value) • Requires customer engagement and participation	• Buying an • ice-cream in a shopping center	• Not always highly related to customer value, • depends on type of public organization • dominant logic is duty logic • hidden profit formula: exchange logic concerns conversion of capitals (economic, symbolic, power, social etc) and game theory and exchange logic may be considered as corruption	Paying taxes to the municipality •
Customer value proposition	• Usually tailored to target customer needs • Usually one value proposition for one target group • Offering value is not obligatory	• Luxury branded vanilla ice-cream covered with milk chocolate and almonds	• Usually tailored to general customer needs • Usually many value propositions for many target groups • Offering value is obligatory, • Compulsion-based services	Municipal road maintenance, acquiring a building permission

Profit Formula

In case of business organizations profit formula concerns the revenue model, cost structure, margin model and resource velocity (Johnson et al., 2008). This implies that exchange of product or service for money is the driving logic of a business model. In this framework revenue is always highly related to customer value (Osterwalder et al., 2014). In case of public organizations, the scope of activities is more diversified. They are supposed to secure access to public goods, assure that all state duties indicated in the legislation are provided etc. Thus, profit formula is rather a financing formula. Goods and services may be considered as "free", as financing them is often indirect, through redistributed taxes. Redistribution is typical for public sector, and its dilemmas may be well and briefly depicted by three equity standards in public sector performance evaluation, which suggest that resources may be distributed equally, according to the needs, or input (equal opportunities, compensatory equity, and market equity respectively) (Lamb, 1987). Thus, the type of public organization impacts the profit formula applied in a business model. It may be profit oriented, however the cost reduction was and still is the biggest problem (Hildreth & Hildreth, 1989; Wilson, 1887). Despite profit or cost orientation, it often remains directly unrelated to offered customer value proposition (goods or services). This implies broadening the notion of exchange (profit formula) (Alford, 2002). Exchange logic, typical for profit-oriented business organizations, is different, more duty oriented. Duties are usually derived from legislation and state responsibilities.

However, profit formula in its classic business context applies to public organizations in one more way. Wide understanding of exchange and conversion of capitals (Alford, 1993, 2002) applied to the business model framework may explain organizational pathologies, like nepotism or corruption (Kożuch & Dobrowolski, 2014), from a new angle.

Customer Value Proposition

In case of business organizations customer value is tailored to the needs of target customer groups (Osterwalder & Pigneur, 2010). Value proposition design encompasses finding a perfect match between customers jobs, and pains and gains related to it, and offered products and services (Osterwalder et al., 2014). It implies that one value proposition is created for and offered to one target group of customers. However, in certain circumstances two business models may be applied to one market (Markides & Charitou, 2004), or multiple business model management is necessary (Louis, Blumenthal, Gluck, & Stoto, 1989; Massa & Tucci, 2013). In contrast, public organizations, used to offer products and services tailored to general customer needs, although it is changing (Alford, 1998; Osborne & McLaughlin, 2005). Some of public sector institutions, like municipality for instance, offer multiple values for various target groups, and may not resign from offering "customer value". Possibility to change value proposition may also be strictly limited. Eventually, there is a group of compulsion-based services, which citizens may not want, but have to "use", associated with police interventions, imprisonment, audits etc. In such cases "customer value" may be difficult to adjust to expectations. In this regards Lamb (1987) notices that public organizations must often select apathetic, disinterested and opposed targets, and are pressured or required to adopt undifferentiated strategies, and Alford (2002) distinguishes three types of "customers" of public organizations, like paying customers, beneficiaries, and obligatees.

This specificity highlights two major differences between BM and PSBM, indicating two practical questions:

1. How profit formula should be related to customer value proposition?
2. How customer value proposition should be tailored to customers' (citizens') expectations?

The first one embraces many relevant debates, among them on public and private goods (Jun, 1997), or limits of market economy and level of social protection (Warner & Clifton, 2014). As Laing (2003) puts it: "not all public services lend themselves to the application of such a user payment orientation due to both the existence of multiple indirect beneficiaries and the ongoing primary emphasis on social justice within many public services" *(p. 438).* It is a matter of a key principle that precedes and conditions different ways of organizing public service delivery. The second question is related to the debates on, among others, public service quality (Hsieh, Chou, & Chen, 2002; Redman, Mathews, Wilkinson, & Snape, 1995), and public sector marketing (Laing, 2003; Lamb, 1987; Lee & Kotler, 2007). Discussion mentioned and not mention debates is beyond the aim and scope of this chapter. Nevertheless, they outline on a meta-level, a wider framework for public sector business models. It is depicted as a matrix with two dimensions reflecting both questions, and therefore four options resulting from the interaction of the possible answers (simplified and radicalized for the purpose of this conceptualization) (Table 3).

First one (I), is classic public administration which offers goods and services tailored to expectations of general customers, which are not directly related to the profit formula. This model has evolved through the decades, from *minimal state*, through *unequal partnership*, to *welfare state,* although variously around the world (Osborne & McLaughlin, 2005; Ostrowska, Frączkiewicz-Wronka, & Bratnicki, 2013). In Bovaird's (2007) classification it comprises Traditional professional service provision. Other three options pertain to *the plural state,* encompassing marketization, New Public Management and community governance and co-production.

Table 3. General framework of public sector business models

<table>
<tr><td rowspan="2">Profit Formula</td><td>Related to Customer Value</td><td>(II)
• Public organizations marketize services
• Public organizations operate on business basis</td><td>(III)
• Business organizations taking over public services and tasks</td></tr>
<tr><td>Not Related to Customer Value</td><td>(I)
• Classic public administration</td><td>(IV)
• Public organizations improve services through community governance or community co-production</td></tr>
<tr><td colspan="2" rowspan="2"></td><td>Tailored to expectations of general customers</td><td>Tailored to expectations of particular target customers</td></tr>
<tr><td colspan="2">Customer Value Proposition</td></tr>
</table>

Second and third option (II & III) pertain to the various attempts to implement marketization and New Public Management, which in general tried to introduce to the public sector managerialism focused upon improved performance of public service creation and delivery (Osborne & McLaughlin, 2005). It encompassed wide range of instruments, like privatization, contracting out, mixed market solutions, cooperative contracting, market testing etc., and took different directions either from cooperation to competition or the other way around (Reichard, 2002; Warner & Clifton, 2014). Some of the reforms, like managerialism, contractualism and the call for customer focus, tend to be in kind of 'one size fits all' (Alford, 1998, p. 129). Nevertheless, in general, in this models public organizations started to operate on business basis or business organizations become responsible for public services and tasks. There are two models of public and private production process, that apply to this context (Alford, 1993), and which may be considered as the early frameworks of business models for the private and public sector.

Fourth option (IV) encompasses community governance, co-production, and other types of civic movements, which are alternative to the failures and shortages of marketization and New Public Management, like for example unsustainable strain on social cohesion or loosing social protection (Bovaird, 2007; Osborne & McLaughlin, 2005; Warner & Clifton, 2014). Importantly, many forms have their history, and have been already applied interchangeably, like co-production which had its decline and renewal state (Alford, 1998). But the core idea behind co-production, community governance etc. is "tailoring the services to the needs of individual person, with the possibility of choice" (Koch & Hauknes, 2005, p. 29).

Bovaird (2007) developed a conceptual framework that allows a more detailed characterization of the relationships between users and communities and professionalized public services. He distinguished following seven types. Traditional professional service provision with user is when services are delivered by professionals, but users and community members are closely involved in the planning and design stages. User co-delivery of professionally designed services happens when users and community members deliver the service which is designed and planned by professionals. In turn, full user – professional coproduction is associated with fully shared task of planning and designing the service, and delivering it, equally involving both the users and professionals. User – community co-delivery of services with professionals, without formal planning or design processes, is a relationship in which users and community groups take responsibility for undertaking activities, and call on professional service expertise when they need it. User – community sole delivery of professionally planned services is when users and other community members take responsibility for delivering services planned by professionals. User/

community sole delivery of co-planned or co-designed services encompasses situations when users or other community members deliver services that they partly also plan and design. In contrast, traditional self-organized community provision is when professionals do not participate in any form in planning, designing and delivering services (Bovaird, 2007). There is also a framework for citizensourcing including three dimensions, such as citizen ideation and innovation, collaborative administration, and collaborative democracy (Hilgers & Ihl, 2010).

Outlined specificity of public sector business model framework allows to conceptualize how it incorporates innovation.

Public Sector Business Model Innovation

The approach to BMI presented by Massa & Tucci (2013) emphasizes in fact its institutionalization, and from this point of view applies to the public sector. Following this argument to a more radical extend could imply the view of public organization as an institutionalized business model. If institutionalization becomes more important than the business model itself, public organization turns into an "empty shell", because it usually lasts and awaits for renewal (Downs, 1964; McCurdy, 1991), instead of achieving the last phase of organizational life cycle (Adizes, 2004). Hence, public sector business models not always expire, and public organization life cycle is not always terminated, like in case of a municipality. This is why the renewal of public organization is so important, and the perspective of business model innovation provides new lens to look at public organizations and their performance. One way to approach public sector business model innovation is to find analogies to the private sector.

Imitation of business model across industry boundaries described by Enkel and Mezger (2013) could be considered for adaptation to the public sector. They claim, that analyzing structural similarities between industries on the level of components of the business model results in developing the systematic process model for business model innovation. Maybe such a model could be developed for the public sector as well. For instance some forms of marketization may be applied to different service sectors (Reichard, 2002). The taxonomy of BMI encompassing new activities to address customers' needs, linking activities in novel ways, or new governance arrangements pertaining to the parties performing activities (Amit & Zott, 2012), is universal and could be directly applied to the public sector. In turn, open innovation in public administration can offer new ways of citizen integration and participation, enhance public value creation and political decision-making process (Hilgers & Ihl, 2010). It is also associated with collaborative innovation (Sørensen & Torfing, 2012). Hence, the concept of open innovation is highly relevant for considering open business model innovation in the public sector.

Very important and emerging trend to change the economy is related to Circular Economy (Ellen MacArthur Foundation, 2013a, 2013b; Joustra et al., 2013; Renswoude, Wolde, & Joustra, 2015). Every organization optimizes its processes, may virtualize its products or processes and uses resources from material loops, thus every business model is both linear and circular to some extent (Lewandowski, 2016; Mentink, 2014; Renswoude et al., 2015). Thus, also public organization may apply circular economy principles to their operating schemes, and turn their business models into more circular ones. For example public hospitals could adopt performance models in procurement, and become leaders in recycling and waste reduction (Ellen MacArthur Foundation, 2015a), and e-government is a good example of virtualization (Ellen MacArthur Foundation, 2013b, 2015b; Moon, 2002).

Table 4 summarizes the attempt to derive the types of Public Sector Business Model Innovation from its business sector origin.

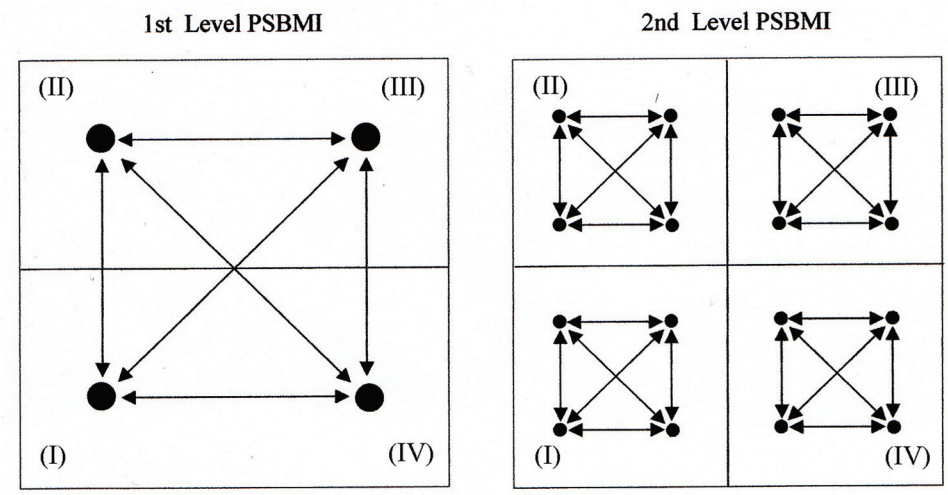
Table 4. Types of public sector business model innovation

Types of Business Model Innovation	Types of Public Sector Business Model Innovation	Examples of PSBMI
Design of novel BM for newly formed organization (Massa & Tucci, 2013)	Creating a new public organization, or a private organization or NGO from a public organization	Spin-off (Shane, 2004)
Innovation to the industry value chain (Industry model innovation) (Giesen et al., 2007)	Changing the way public organizations cooperate in a value chain	Smart city (Nam & Pardo, 2011; Su, Li, & Fu, 2011)
New way revenues are generated (revenue model innovation) (Giesen et al., 2007)	New way of financing	Crowdfunding (Baeck & Collins, 2015; Rosenman, 2007)
New role of a firm in a value chain (enterprise model innovation) (Giesen et al., 2007)	Changing the main role of public organization	Forms of academic entrepreneurship (Klofsten & Jones-evans, 2000; Louis et al., 1989)
New activities to address customers' needs (Zott & Amit, 2010)	Adding new tasks or public services	E-government (Moon, 2002)
Novel ways of linking activities addressing customers' needs/ Reconfiguration of existing BM (Amit & Zott, 2012; Massa & Tucci, 2013)	Link activities in novel ways	Patchwork App - innovative application for social workers (Design Commission, 2013); Cooperative contracting (Reichard, 2002)
Changing which parties perform an activity (governance) (Amit & Zott, 2012)	Changing which parties perform an activity	Contracting out; Privatization (Reichard, 2002)
Cross-industry adaptation a business model (Enkel & Mezger, 2013)	Applying business model from one type of PO to another, or from industry to PO	Forms of marketization may be applied to different service sectors (Reichard, 2002)
Open business models (Aranha et al., 2015; Chesbrough, 2007)	Allowing citizens participation in public service creation and delivery or performing public tasks	Participatory budget in Porto Alegre, or public-private partnership like Villa Family (Bovaird, 2007)
Circular business model innovation (Lewandowski, 2016; Mentink, 2014)	Applying circular economy principles to public organization	Recycling and waste reduction in Dutch hospitals (Ellen MacArthur Foundation, 2015a)

Types of BMI and general framework for PSBM, when combined together, may shed some light on what PSBMI could look like. The general framework of public sector business model indicates four general types of such models, depending on the relation between profit formula and customer value proposition, and to what extend customer value proposition is general or tailored to costumers needs. Hence, two general levels on innovating public sector business model exist. First level pertains to a situation when changing a business model of public organization changes either the relation between profit formula and customer value proposition, or the extent to which it is tailored to costumers needs, or both. It also changes the main tenets of business model framework. Second level encompasses a situation, when the business model of public organization is innovated within unchanged scope of BM tenets. Both options have been illustrated on the Figure 1.

An example of the 1st level PSBMI is a public university when it starts to create spinoffs, the new companies "founded to exploit a piece of intellectual property created in an academic institution" (Shane, 2004, p. 4). Forms of academic entrepreneurship in general, and spin-offs in particular, from the perspective of the traditional public university change its business model tenets into triple helix model (Leydesdorff & Etzkowitz, 1998). Such a change is very sensitive, as it may lead to organizational dysfunctions and pathology in academia, when it corrodes ethos and social values (Sułkowski & Zawadzki,

Figure 1. Levels of public sector business model innovation
Source: Own elaboration.



2016), or threatens organizational development (Lewandowski, 2013). The case of using crowdfunding to support public projects also raises several concerns (Rosenman, 2007, 2015).

An example of the 2nd level PSBMI is when a public organization, which already uses contracting out, decides to turn towards cooperative contracting (Reichard, 2002). Such a change of a business model does not impact the main business model tenets, it is a simple shift from one New Public Management solution to the other.

Another way to approach PSBMI is related to the innovation levels (Koch & Hauknes, 2005). In this regard, Enkel and Mezger (2013) attempt to pursue a systematic process model for business model innovation could be taken a step further for the public sector business model. A framework of business model could be elaborated for a city and region to support their sustainable development. For instance, there is the smart city concept already applied by the cities worldwide (Nam & Pardo, 2011). Other possibility to innovate public sector business model is to apply an ideology or methodology to an existing business model, like in case of circular business model (Ellen MacArthur Foundation, 2015a) or design (Barzelay & Thompson, 2010; Radine, 1987).

SOLUTIONS AND RECOMMENDATIONS

Innovating Public Sector Business Models Through the Application of Design Theory to Public Service

The pressure to introduce design into public services, and even to develop rather user-driven services which "involve public service staff and users working together to determine what services are provided and how", is increasing (Donetto, Pierri, Tsianakas, & Robert, 2015; Public Administration Select Committee, 2008, p. 9). At the same time design is an essential component of the public sector innovation

theory (Omachonu & Einspruch, 2010), and co-production of public services (Bovaird, 2007), hence also of public sector business model innovation.

In general, service design is an interdisciplinary method for inventing and improving services, helping with (re) designing them from the perspective of the user, based on 'design thinking', true co-creation and collaboration with the user (Thoelen et al. 2015). Another, already recognized in the field, working definition of service design comprises four elements, such as (Saco & Goncalves, 2008, p. 12; Whicher, Swiatek, & Cawood, 2013):

- The aim, which is to create useful, useable, desirable, efficient, and effective services;
- A human-cantered approach pertaining to the customer experience and the quality of service as the focal point and the key value for success;
- A holistic approach integrating design decisions on strategic, system, process, and touch-point level;
- A systematic and iterative process integrating "user-oriented, team-based inter- disciplinary approaches and methods in ever-learning cycles."

Acording to Public Administration Select Committee (2008, p. 9) user-centred public services "actively involve the people using them in service design and delivery" and "entail drawing upon the expertise, views and perspectives of service users to complement the skills and input of service professionals."

Despite still weak conceptualization of what service design really is (Saco & Goncalves, 2008), and methodological challenges how to evaluate its effects (*Ferrari and Manzi (2014)*), several ways how service design may contribute to the public sector business model innovation may be outlined.

Implementation of design to the public sector is not new, as many historical examples exist (Ravneberg, 2009). Although, the argument to use design science or design theory to improve public services and public administration was raised deliberately just a few decades ago (Radine, 1987). For example Radine (1987) suggested to apply four design principles from architecture to the process of administrative law creation (and to statutory law controlling agencies as well), such as:

1. The law should "fit" the organizations it is controlling.
2. Multidisciplinary character in case of administrative law corresponds with social and organizational theories, which should be taken from "outside" to innovative the way law is created.
3. The way of dealing with failures should be based on the comprehensive, systematic feedback about the impacts of law. This would allow to better understand what are the failures in designing law and what are the causes.
4. Paradigm based on body of knowledge and empirical and conceptual model, which is a starting point for every design process, in case of administrative law should encompass a conceptual framework of organizational characteristics and relationships. The most important is the nature of the relationships resulting from the contacts of the agencies with professions, organizations and industries.

Building further on this argument, design theory may and should be considered to apply to all activities performed by every type of public organization. This would mean a big and important shift in the way public sector operates (DESIS Network, 2013; PricewaterhouseCoopers, n.d.). And it has already been recognized. For example, in 2010, for the first time, design was highlighted in the European Commis-

sion's Innovation Union (a policy initiative of the Europe 2020 strategy for growth) for its transformative power not only in business, but also in the public sector, and society (Whicher, Swiatek, and Thurston 2016). In the US and UK public policy is already being refocused on establishing design-led government programs (Design Commission, 2013; Public Administration Select Committee, 2008; Yoffee, 2016). Moreover, many methods and tools supporting public service design have already been recognized. They encompass for example Experience-Based Design (Donetto et al., 2015), co-design method called Storytelling Group (Kankainen et al., 2012), Affinity diagram (Beyer and Holtzblatt (1998), behavioral maps (Wang 2014), or emotional maps (Bowen et al., 2013). There is also Do-It-Yourself guide for public organizations how to design public services (Thoelen et al., 2015).

The results of institutional change and application of appropriate design methodology to public services bring, as many cases depict (Table 5), not only positive effects, but also innovation to public sector business models (Bovaird, 2007; Design Commission, 2013; PDR, 2013; Whicher et al., 2013).

Table 5. Innovative changes to PSBM led by public service design

Design-Led Public Services	**Innovative Changes to PSBM Components (Based on Johnson et al. 2008)**			
	Citizen-User Value Proposition	**Profit Formula**	**Key Resources**	**Key Processes**
GOV.UK (Design Commission, 2013)	A single platform containing all central government websites. It has a unified look and feel and simplifies experience of using the sites. It is a single point of entry for citizens wanting to interact with, or find things out from, central government departments.	Cost reduction due to reducing multiple contracts for 24 government differently specified and procured department websites	New department - Government Digital Service office with skills and top-management allowance to be radical	Ruling design principles were established
London Borough of Barking and Dagenham (Whicher et al., 2013)	The residents involved in the co-design project rated the council more highly in terms of keeping them informed and listening to their needs.	Cost savings being reinvested	- Partnership and knowledge: a design agency trained staff to undertake ethnographic research and led co-design workshops and service prototyping work	- Undertaking ethnographic research, co-design, and service prototyping
Patchwork App (Design Commission, 2013)	An app, which allows social workers from multiple agencies to find out quickly and easily who else is working with their family, makes the work simpler and more efficient. It allows for earlier interventions and better outcomes for families.	Time savings, more efficient work	Partnership with a creative agency FutureGov	Performed through Patchwork App

continued on next page

Table 5. Continued

Design-Led Public Services	Innovative Changes to PSBM Components (Based on Johnson et al. 2008)			
	Citizen-User Value Proposition	**Profit Formula**	**Key Resources**	**Key Processes**
Villa Family Project (Bovaird, 2007)	- Elderly people may live in their villages, close to relatives and friends, in a family atmosphere, and they receive professional 24 hour care; - Separate flats in a large house for two families, who each host three elderly people, - With two host families under the same roof, hosts can stand in for each other briefly, such as on annual holidays; - The architecture of the Villa Family is specially designed to overcome typical problems in such arrangements and helps to professionalize the job.	- Both young and elderly benefit from contact with each other; - Elderly people employ the hosts; - Jobs are attractive because of the salary and possibility to bringing up children; - Investor receives the rental income - Municipalities to donate the lease of a plot of land on which to build the Villa Family, and in return, it guarantees that elderly people from the municipality have priority allocation - Free land allows affordable rents to be set, in line with social housing.	Public-private partnership	The county council registers the host's qualifications and the suitability the household and monitors the project
District Labour Office in Żory (PDR, 2013)	- A new system to help clients find their way around the building - An information point in the ground floor lobby as the first point of contact for clients and dedicated information staff to help clients - For parents a children's corner activity area and changing facilities built into the ground floor toilets. - Staff were encouraged to rewrite any documents intended for clients in easy to understand everyday language	- Cost effective improvements - EU funded project covered the costs of external design experts and the workshops	- Minimal investment, mainly by using existing staff and facilities in new ways - Partnership with PDR within the EU funded project	Improved communication Staff Training programs

The Table 5 above may be summarized by a conclusion, that on a very general level public service design may foster innovation in public sector business models in the similar way it does for public service reform, which seem to be the two sides of the same coin. A sentence from the report "Restarting Britain 2: Design and Public Services " illustrates it well: "there are lots of ways to approach public service reform: opening up public services to choice and competition; reducing the public service cost base and improving its overall productivity; and bringing public services into the 21st century through greater use of digital technologies. But to succeed, each of these approaches must incorporate the principles of great design." (Design Commission, 2013, p. 5)

User-centered service design approach may contribute to public sector business model innovation not only in a single public organization, but also on the level of local and central government (Design Commission, 2013), and respond better to the challenges related to multiple-value for multiple stakeholders, as Villa Project shows (Bovaird, 2007).

Although public service design may greatly contribute to citizens quality of life (Ravneberg, 2009), its application is not an easy process. There are several barriers and pitfalls, which may impede PSD (Thoelen et al., 2015), and thus public sector business model innovation. They comprise, among others, several barriers impacting the integrity of business model fit, such as being blind to the "outside world" due to high personal engagement in the service or organization reform, imbalance in listening to the standpoint of the end users and to the needs and wishes of employees, imbalance in focusing on the interaction between the citizens/customers and the employees, and not enough attention for what needs to happen behind the scenes in order to make this a reality, or simply skepticism from stakeholders and being afraid of changes.

FUTURE RESEARCH DIRECTIONS

Some direction of the future research could encompass exploration of public sector value chain, identification of business model types and also business model innovation types typical for the public sector, including similarities and differences across the countries. Moreover, a framework of a business model could be elaborated for a city and region to support their sustainable development. Another interesting point would encompass more detailed comparison of Public Sector Business Model with Social Exchange Theory. Important topic pertains also to the ethical issues resulting from innovating business models of public organizations.

CONCLUSION

This chapter links business model and public management theory in three ways. It identifies the specificity of public sector business model which pertains to profit formula and customer value creation. In the public sector those two main components of a business model are usually indirectly related to each other, and customer value is hardly tailored to target customers' needs. Although, it is changing due to the public sector business model innovation. Such an innovation may exist on two levels. Either it changes the tenets of the general framework of public sector business model, or it happens between the lines drawn by the principles. In this regard, Public Service Design appears to be a strategy to innovate every business model of a public organization, and to deliver much better public services and raise citizens quality of life.

Identified specificity supplements both theories. Business model theory is extended with its public sector context. Public management, in turn, gains a synthetized framework, which has been around for some time in the literature, although not explicitly outlined. Such a perspective provides new lens to analyze how public organizations operate.

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KEY TERMS AND DEFINITIONS

Business Model: A way of how an organization creates and delivers value to its customers or audience, and how it captures value from them in return.

Business Model Innovation: A new way of creating, delivering and/or capturing value, introduced by an organization purposefully.

Customer Value Proposition: A set of attributes, relevant for a customer or audience, which an offered good or service has.

Design: A plan, drawing, pattern or a way in which parts of a bigger whole are purposeful arranged.

Profit Formula: A way of exchanging customer value proposition (good or service) for other value (usually, but not always, the price of offered good or service).

Public Service: A service highly relevant for citizens quality of life and safety, created and delivered by a public institution or other organization on behalf of a public body.

Service Design: A way to plan, implement and offer a service which would contain the attributes preferred by the customers or audience, based on true and in-depth recognition of those attributes through engagement the customers or audience.