

New Public Service Development: Identifying Elements of Process Model

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Abstract. Nowadays public services are challenged in number of ways. The transformation of societies, technological innovations, and budgetary pressures force the governments to be more efficient, reduce costs, improve the quality of decision-making, promote greater trust in public organisations, and tackle the higher expectations of modern citizens or businesses. Under these conditions, it is critical to search for new innovative models of new service development in the public sector, and methods that turn ideas and insights into viable offers to the citizens or business. The aim, in the first part of the article, is to analyse the theoretical background for new service development and innovation processes. The second part examines the new approaches to public services development that emerge as paradigm shifts in modern societies. Lastly, the article engages to identify the major elements that aggregates the new service design process in the public sector, unpack their dimensions, and clarify the process differences from the one in the private sector.

Keywords: Public Services, Service Innovation, New Service Development (NSD), Service Design, Process Model.

1. Introduction

The delivery of public services has made certain progress in terms of effectiveness and coherence over the past two decades. Nevertheless, in many developing countries the average citizen continues to suffer from gaps in provision and poor performance of even the most basic public services (Batley et al. 2015). The desire for public services as ‘quality’ or ‘standard’ is

frequently articulated as not satisfied among citizen-consumers who become more technology-savvy, access information more quickly, and know their rights better. Built on on principles of the industrial society, the traditional governance cannot longer deal with all the complex demands and problems raised by these modern citizens-consumers who can be seen as the representative of the information society (European Commission 2013a). The governments are expected to adhere to core values and the principles of good governance – openness, participation, accountability, effectiveness and coherence – and support the delivery of high-quality public services to citizens.

Taking into account that ordinary citizens are empowered by the technology to make their voices heard and challenge the leaders about their ability and willingness to address public concerns and requests, we must embrace that future of public services provision is less and less in the hands of governments alone. How best to address the performance improvement of certain public services while considering the mentioned circumstances?

Traditionally, the role of governments has been recognized as the empowering one. This role also has to safeguard the basic values, such as integrity, legitimacy and accountability, protection of civil and political rights, equal opportunities and equal treatment for all, and ensure that certain public services continue to be provided effectively and that citizens are not adversely affected. However, the above mentioned support for social accountability remains too generic, and is not distinguished between the different opportunities and constraints faced while developing new public services. We observe that the performance of newly introduced public services depends not just on allocated resources and the capacity of service providing organization but on the embracement of innovative methods and approaches so widely exploited in the private sector for service innovation or new service development.

We cherish the idea that the governments should be reaching out to the private sector and citizens, to become partners in solving key challenges for improving the accessibility and quality of public services. They need to engage in public entrepreneurship, using a whole new range of tools and methods to mobilize the untapped resources in and outside of governmental organization, support innovation through new collaboration and partnership models (European Commission 2013b).

Developing a successful new service offering is not an easy task even in the private sector which is considered to function more effectively than a public sector. The establishment of a certain process framework is an important step before engaging into the activity of creating new public services. Depending on

the process model we can expect the variety of approaches how the goals are achieved and the necessary work is completed. Consequently, the outcome – a launched new service – might be completely different if developed in one or another methodological approach.

In this research paper we pursue the goal to identify and describe the key elements of the new service development process in the public sector. Firstly, we will review the theoretical background for new service development (NSD), service innovation, and service design. Afterwards, we will look into the specifics of public services development and review the new approaches adopted and practiced by the governments at a recent time. And finally, we will look more closely to the service development process elements what we consider to be the most important in the framework.

2. Theoretical background for new service development

The scientific and specialist literature relatively neglects the processual or managerial perspective of service innovation or new service development.

The theory reviews of the existing schools of thought in new service development (NSD) and service innovation research fields can be found (Droege et al. 2009: 131–155; Hertog 2010; Djellal et al. 2013: 98–117; Gallouj et al. 2013: 89–97). The authors identify four schools of thought or traditions in the field:

- Marketing and service management dominated tradition.

The emphasis on service quality, customer management, service management and operations management can be found in the research works of this tradition. Nevertheless, even indirectly and not so explicitly addressed, there are aspects of service innovation, the service innovation process, and its management in the theoretical works of this tradition (Hertog 2010).

Some prominent works include: customer contact approach (Chase 1981: 698–706), the SERVQUAL model or RATER model as called later (Parasuraman et al. 1990), the service profit chain (Heskett et al. 1997), the strategic approach to service management (Quinn et al. 1990: 58–67), the works of Gronroos on service management and marketing (Gronroos 2007), the GAPS model of service quality (Zeithaml et al. 2003), the framework for developing services marketing (Lovelock et al. 2007).

- New Service Development (NSD) tradition.

This tradition builds on the New Product Development (NPD) methods, frameworks and tools. The NSD perspective provides some frameworks and tools for managing the service innovation process and guidance to look closely

at how to measure the performance of the service innovation process. Some authors are closely attached to this tradition and pursuing service innovation process management models (Brentani 2001: 169–187; Oke 2007: 564–587; Stevens et al. 2013; Tidd et al. 2010; Froehle et al. 2007: 169–188).

- Service innovation tradition (Lille and Manchester schools).

This tradition has contributed considerably in identifying the peculiarities of service innovation and putting service innovation process on the research pathway. The most comprehensive approaches have been developed by the researches from Lille and Manchester Schools (Miles 2011; Gallouj et al. 2013: 89–97; Tether 2005: 153–184; Toivonen 2011: 33–58).

- Inter-disciplinary tradition.

The authors who are termed to this tradition have crossed the various disciplinary traditions and combine a service marketing, service management or strategic management approaches with a focus on service innovation. The established scholars in this school of thought are Edvardsson, Sundbo, Normann (Hertog 2010). Some derived contributions to highlight: the model of service development process (Edvardsson et al. 1996: 140–164), the process model for service innovation (Thomke 2003: 71–79), the collaborative client provider value creation process (Moeller et al. 2013: 471–487), contributions on service logic innovation (Michel et al. 2008), the service design model (Frei 2008: 70–80, 136) and nine factors for market creating service innovations (Berry et al., 2006), the modelling of new service development (Drejeris 2015) .

Reviewing the extensive literature on the service innovation and NSD, Den Hertog (2010) concludes that the derived majority of existing frameworks and insights are partial, lack granulation or are too product-based, and they do not provide sufficient insight into the organizational routines that are needed to bring service innovations repeatedly.

2.1. Existing NSD models

The following NSD definition by Cooper et al. (Cooper et al. 1994: 281–299) is broadly cited through literature sources: NSD process is the set of stages and activities, actions, to tasks (including project screening, market research, product development, and test marketing) that moves the project from the idea stage to final launch.

We have put forth the number of NSD models (see Table 1) found mentioned in the texts (Fitzsimmons et al. 2000; Lin et al. 2011: 141–157; Jin et al. 2014: 86–116; Bonomi Santos et al. 2013: 800–827; Drejeris 2015).

Table 1. Summary of NSD models mentioned in the revised literature

80'	1982 Booz, Allen and Hamilton
	1984 Shostack
	1988 Cowell
	1989 Bowers
	1989 Scheuing and Johnson
90'	1993 Mohammed-Salleh and Easingwood
	1994 Cooper
	1996 Edvardsson and Olsson
	1997 Tax and Stuart
	1998 Bitran and Pedrosa
00'	2000 Cooper and Edgett
	2001 Avlonitis
	2002 Alam and Perry
	2002 Meirrn and Barth
	2002 Menor et al.
	2002 Tatikonda and Zeithaml
	2007 Froehle and Roth
	2008 Kung
	2008 Kuo
	2009 Kindstrom and Kowalkowski
2009 Song et al.	
10'	2010 Lin and Hsieh
	2010 Kim and Meiren
	2011 Zomerdijk and Voss
	2014 Drejeris

J. Fitzsimmons (Fitzsimmons et al. 2000) proposes to group the NSD models into three categories:

- Partial models regard only a part of the entire NDS process;
- Translation models
- Comprehensive models attempt to depict the NSD process holistically.

Although process models facilitates the implementation of NSD projects, their mere application does not define what must be delivered at each stage (Stevens et al. 2013). We consider that this gap generates a lot of uncertainty when trying to apply the NSD models in practice. Also there are claims about a shortage of assessment tools which can help evaluate and benchmark NSD processes (Jin et al. 2014: 86–116).

After reviewing the list of NSD process models, we have arrived to the

following conclusions:

- NSD models are most commonly depicted as iterative and cyclical;
- They indicate activities at different development stages and link them in sequential manner, from idea generation to service launch;
- They integrate the customer involvement and cross-functional teams into development process;
- NSD models describe the support tools, technology and knowledge as essential inputs;
- They strongly articulate the careful definition of service concept;
- They suggest that service should go through short testing stages, launched without being perfect, and afterwards continuously updated.

2.2. Service development versus service design

The breakdown of innovation into radical and incremental is widespread and acceptable (Melnikas et al. 2000; O'Sullivan et al. 2008: 424). J. Fitzsimmons rises the idea that that NSD for radical innovation should differ from NSD for incremental innovations, and notes service design specifies the detailed structure, infrastructure, and integration content of a service operation strategy, while NSD refers to an overall process of developing new service offerings (Fitzsimmons et al. 2000).

The study of service design is mostly covered in the operations-orientated management research. In early contributions on service design, the term was brought forth by services marketing researchers (Shostack 1984: 133–139; Scheuing et al. 1989: 2534; Gummesson 1990: 97–101), and was considered as part of the domain of marketing and management disciplines. In 1991 service design was introduced as a design discipline by M. Erlhoff and B. Mager (Moritz 2005).

Service design recognizes that issues related to service quality can be addresses and solved with the same principles of design that are used to improve products (Moritz 2005). E. Scheuing and E. Johnson (Scheuing et al. 1989: 2534) see that service design starts with the new service development process. The authors attach service design to service concept, design of operational details and to the design of service delivery process and system. M. Akesson and B. Edvardsson (Akesson et al. 2008: 457–478) see service design as integral part of service concept, hence design questions are part of the whole service system. In more recent research papers the service design discussion seems to develop into multidisciplinary concept service science (Maglio et al. 2010).

Hence further pursuing our research goal – modelling service design process

in the public sector – we raise the challenge to identify the new framework that would:

- Provide the sufficient support for new service (innovation) development prerequisites;
- Bring clarity and alignment on how the new service (innovation) development process should function;
- Be considered as sufficiently versatile and suitable for usage in the public sector organization.

3. New approaches to public services development

We regard public services as the service offers to the general public in the public interest with the main purpose of developing public value. In European Commission's strategic documents, the public value is defined as the total societal value that cannot be monopolized by individuals, but is shared by all actors in society and is the outcome of all resource allocation decisions (European Commission 2013a).

Public services have always been under the scrutiny of the requirement to be efficient and effective. Nowadays the budget constrains also confront public administration but additionally there is a strong request to provide the services of high-quality standards. Hence, the governments have to consider innovative new ways of developing and organizing the public sector for creating public services.

Why the demand for public services and the way they are provided has changed notably over the years? The public sector in the 21st century is undergoing dramatic change due to driving forces like significant technological innovations, transformation of societies in advanced economies and the developing world, globalization and the pluralization of service provisions (European Commission 2013a). As a result, problems faced by governments become more complex, tangled and global, rather than simple, linear, and of national focus. The governments have to face these challenges and design their reforms on new models rather than conventional ones, in order to encompass the significance or implications of these changes.

New public management (NPM) is a discussion and investigation of economical political systems and their policies for rendering a public sector to be more efficient. NPM techniques and practices are mainly drawn from the private sector. This change in approach is driven by processes of deregulation, changes in government policies, and changes in users' needs and expectations. NPM initiated reforms shift the emphasis from traditional public administration

to public management and encompasses various forms of decentralizing management within public services¹, increased use of markets and competition in the provision of public services², and emphasis on performance, outputs and customer orientation (European Commission 2013a).

The outcome of the NPM phenomenal shifts more towards empowerment values of citizens and communities to enhance their own as well as collective benefits. This translates into the ability and incentive to participate by increasing the capacity of people to function in society, extending transparency and openness, personalizing services for individual users and empowering the individual service users. In this context the provision of public services is oriented towards the creation of public value and ability for a consumer-citizen to have access to a range of offers on the price and quality of services.

Open government encourages consumers-citizens to participate in their own service design, creation or selection. This approach leads to more user friendly, personalized, pro-active and location-based services, and is also expected to demonstrate economic benefits. However, for better understanding the real impact a cost-benefit analysis should be undertaken (European Commission 2013a).

Co-production is also a model by which public services can tackle social problems and needs, reducing demand for expensive critical services. Fostering collaboration and cooperation across systems and anticipating proactive measures push governments to be less reactive and more insight driven (European Commission 2013b). and thereby ensure more meaningful and sustainable public services.

The introduction of ICT capabilities across practically all service industries also raised the discussions how ICT-related innovations enable empowerment, supporting individuals in acquiring knowledge, organizing themselves to create, produce and deliver anytime and anywhere. Usage of ICT-enabled services allow citizens to be informed about government, to participate in public debates, hold government accountable, produce and deliver services. This makes governments also more networked and increases co-operation within government and with external stakeholders.

The public sector is an important data generator and user. Some evidence shows that by fully exploiting public sector data, governments could reduce their administrative costs (European Commission 2013a). This approach, driven

¹ For example, the creation of autonomous agencies and devolution of budgets and financial control.

² For example, services which the government traditionally delivered directly have increasingly been outsourced by national, regional and local authorities, and are now often provided through public-private partnerships (either profit or not-for-profit) (Tunčičienė et al. 2014: 11–21)

by opening up data, permits collaboration and encourages participative forms of service design or new service development. It also brings more transparency to monitor how the public sector works by accessing to public sector information and to decision-making mechanisms of public administrations.

4. Proposed framework for new public service development

Further we will pursue the goal to unpack the content of the elements that are assembled into to the conceptual model presented in the figure 1. The 16 activities of the proposed process model could be grouped into four phases: exploration, creation, validation, and implementation. We strongly believe that each phase must clearly indicate the result of the activities performed during it. In the proposed model we show the phase's outcome in the swimlane 'Deliverable'.

We start the new service development activities from the 'Exploration' phase. The main goal of this phase can viewed as double-side. From one side, it is important to understand the culture and goals of the organization providing a service, define the existing problems from the organizational perspective. From another side, the problem or need must be articulated from the perspective of a user (customer or citizen). As a result of this stage we have to acquire a clear understanding of the situation.

The following phases mainly represents the service design activities. In the proposed model, it is regarded as the core stage in the new service development process, though number of the listed models (Table 1) places service design and testing in the same stage. We adhere to the view that there must be two separate phases between which most iterations occur for ideas and concepts to be tested and retested. We define these separate phases as 'Creation' and 'Validation'.

The final stage 'Implementation' is about launching the new service. We draw the highlight that the implementation of a new service by necessity demands a process of change. The management of change must be based on the consistent concept formulated and service prototype tested in the pervious stages. Monitoring and reviewing performance of launched service refer to the control of its success. Preferably, the decisions to enhance the service should loop to the previous stages of concept creation and its validation by testing. In this way the whole new service development process leads to iteration and constant improvement.

4.1 Exploration

The first stage of the proposed model marks the start of the project of new

service development. It is all about discovering and exploring.

The first activity of this phase is double-sided. The problem or need that has to be solved or fulfilled is articulated from the perspectives of both parties: an organization providing the service and consumers-citizens. Such an approach to compile the big picture ensures that not only well-known but also latent needs or problems will be uncovered.

To begin with, the managers of the public organization must clarify for themselves the purposes that the organization is supposed to serve. Under this, we envision a very straightforward questions that must be asked:

- What is this public service for?
- To whom are we accountable?
- What constrains us?
- How do we know if we have been successful?

This should not be simply a process of enlightened reflection to realize how the public service can be perfected and making assumptions and subjective judgments about the purposes that might be seen as publicly valuable. It is more about identifying the organization's point of view on a certain problem, the resource limits and process constrains it faces.

On the other hand, the articulated problems or needs from the organization's perspective can be reasonably opposed from the consumers-citizens perspective.

What is the meaning of engaging the service user from the very initial phase of new service development? Actually, it is worth remembering that public services are funded with taxpayers' money and they are subject of democratic accountability. So hearing the voice of the user at the very beginning will ensure that the service created will be useful, usable and desirable. Somewhat it resembles to the realization that a public organization is actually in the 'service business' and consequently the same laws and requirements applied to the service firm can be transferred to a public service provider. Of course, the public services are regarded as different from those available in private competitive markets. But public services are characterized by claims of citizen rights to services to which they have been authorized through democratic process. Though articulating and trying to maximize the public value in the public service provision can be seen as the analogue of the desire to maximize shareholder value in the private sector. This approach obliges public managers to thinking about what is most valuable in the service that they run and to consider how to raise for maximum effectiveness of service provision, for service quality improvements, and for re-engagement of a public sector workforce.

During the activity of identifying problems and needs, it is also important to consider the trend analysis of the social economy and technology³, demand scope analysis⁴, etc.

After gathering the related information on the articulated problems and needs, existing constrains and processes, the second task is to pick out and define the essential issue that will be resolved and worked on during the cycle of a new service development.

The last task is to visualize the findings, underline the framework for existing processes and constrains. This helps to gain a clear understanding of the situation and promotes a sense that it is possible to introduce the appropriate changes to acquire the desired service proposition.

4.2 Creation

The second phase of the proposed model represents the creation stage what translates into the conceptualizing a public service. This phase is closely related to the proceeding stage of validation. As stated above, the ‘Creation’ and ‘Validation’ phases between which most iterations take place. We promote the approach that as many as possible mistakes were detected, explored and avoided during the early NSD phases while testing and retesting ideas and concepts. Of course the cost of an additional iteration during the concept design and testing raises questions about the optimal number of iterations. Hence, we set this for later research and meanwhile we assume that these costs should be of minor importance compared to the cost of failure of launched service with the chosen concept.

In order to achieve holistic and sustainable solutions, the approach of the co-creativity must be pursued. This translates into the inclusion of all main stakeholders of new public service: consumers-citizens, public managers, engineers, and all others stakeholders involved in service provision process.

The deliverable of the ‘Creation’ phase is the designed service concept. We assume that a concept is a description of a new public service and it would include: a description of a problem or need that a user might experience, the reasons why the public organization is going to offer this new service, an outline of service’s features and benefits, the rationale for its consumption, the

³ For example, ICT technologies can be viewed as not a service tool but the core for the ICT-enabled services. In this case, the analysis of technology maturity can be imperative in order to reduce the risks of technology evolution.

⁴ It is understood that service providers have resource limitations when developing new services. Before moving to the next phase to find a solution for the existing problems and needs, the service provider should have an understanding how much accessible resources will be required to mobilise in order to meet the demand.

service delivery process models that includes tasks, activities and interactions with a user, the necessary human resources, technology and inventory for service operations, the initial service delivery cost simulation.

The creation of a public service concept should be accomplished in the following activities:

- Choosing ideas generation technique;
- Searching for ideas sources;
- Generating ideas;
- Selecting and evaluating ideas.

According to R. Drejeris (Drejeris et al. 2010: 603–610), the chosen idea generation method is considered effective if it leads to a number of ‘good ideas’ as an outcome. We understand that a good idea represents the potential to be chosen for service conceptualization. There is a proposal to use four separate effectiveness measures – novelty, variety, quality and quantity – for idea selection and evaluation.

4.3 Validation

As mentioned earlier, the ‘Validation’ phase iterates with the ‘Creation’ phase depending on how well the designed services concept justified itself during the prototype testing. This validation stage is necessary to check our assumptions that we have made in the earlier stages about what might be the possible solution for the identified problem or need.

Here we share the same approach as applied for physical product prototypes. The essence is to gain the feedback from end-users or experts and constantly improve the prototype until it matches the expectations. We must admit that it is relatively easier to create a prototype for a physical product than for an intangible service. Nevertheless, we believe that this challenge can be overcome by selecting just the major service prerequisites for testing, and using extensively the techniques and methods from service design discipline⁵. Since it is not always possible to recreate service delivery moments in the real environments, the controlled environment, such as service testing labs, should be considered.

When performing service concept test in the circumstances close to reality, it helps to evaluate whether a future service user understands the idea of the proposed new service, reacts favorably to it, and feels it offers a solution or benefits for an articulated problem or needs. In other words, the service concept

⁵ For example, storyboarding, mock-ups, service staging, service roleplay, etc.

validation helps to determine potential user's acceptance of the new service.

On the other hand, the service pilot serves to determine the prerequisites that ensure its smooth functioning, and builds insights what refinements should be made and what detailed requirements should be incorporated for the service finalization and preparation for its launch.

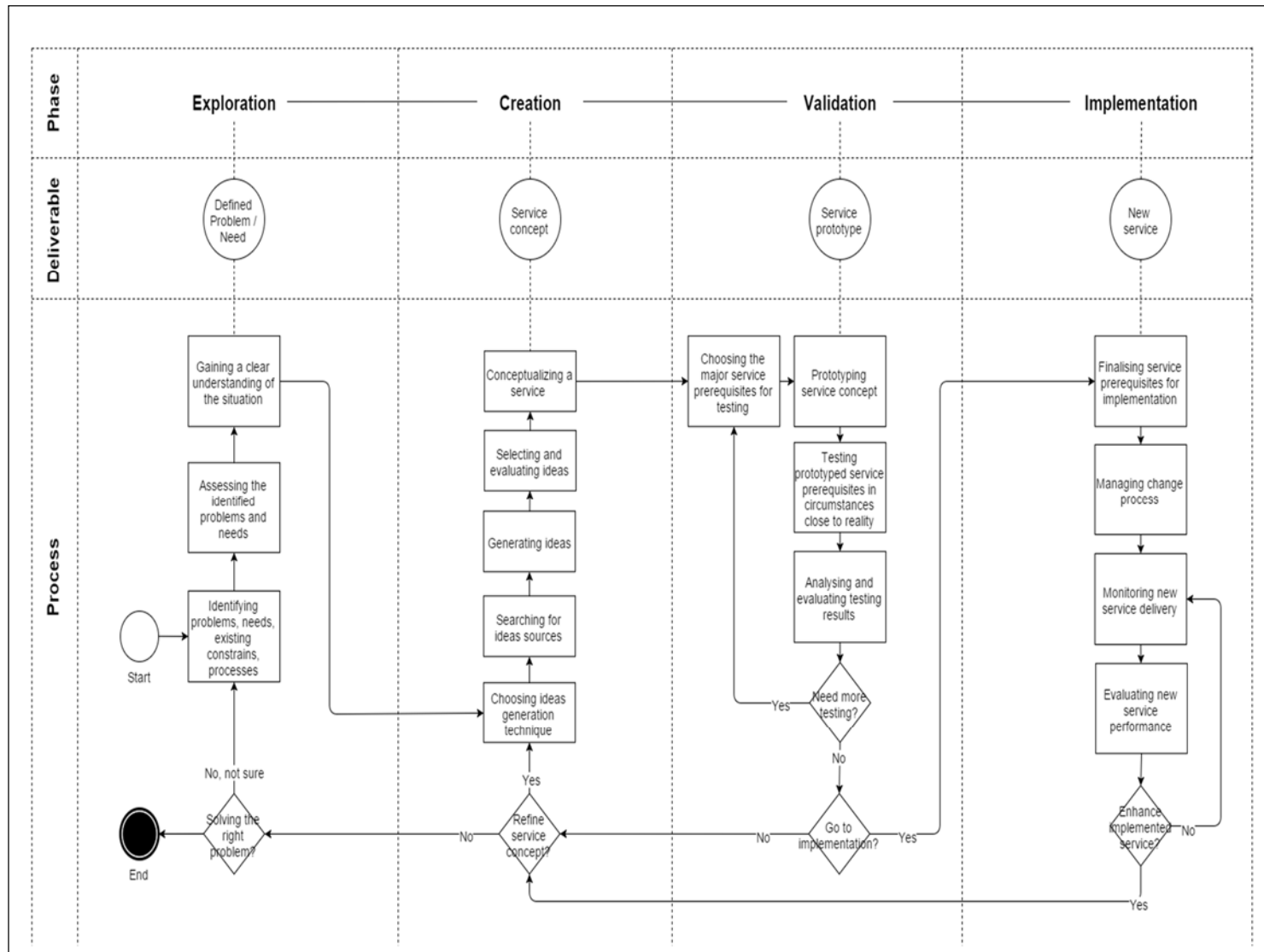
4.4 Implementation

The final 'Implementation' stage is where the service prerequisites are finalized and a new service is launched. We highlight that service implementation translates into the change process management. It is understood that the service concept created and validated in the previous stages guides the change management consistently through organization's systems.

The change management process covers various aspects of organization's functioning. We would like to stress one on them – the consistent communication with service's stakeholders. Here we should consider not only service users but also the employees who will be evolved in the service delivery process. The successful implementation requires their engagement and motivation.

Service post-launch is followed by performance monitoring that is intended to determine whether the new service objectives are being achieved or whether adjustments are necessary. It is quite obvious, that even the prerequisites of the new service are carefully tested, there will always be some unconsidered aspects that create resistance and non-acceptance. We can capture information on service performance and quality through customer complaints, interviews or questionnaires.

By introducing a regular activity to analyze and evaluate users' responses and employees' feedback, we can envisage possible enhancements to the original service offer and improve it continuously.



5. Conclusions

The current social, technological and economic changes create challenges and new expectations for public services. Given that these challenges are largely intertwined, any vision for the future of public services needs to have a multi-disciplinary approach. A solution may be embracing open government, based on the principles of collaboration, transparency and participation within an appropriate governance framework. Such an open government model builds on open data, open services and open decisions. The provision of public services results in the creation of public value. Empowering individually and collectively all actors that play a role in the constitution of society and sharing resources between all stakeholders will contribute to the creation of public value.

For an efficient public service development process, public managers should follow guidelines that include how to develop new public services that are responsive to consumer-citizen's needs, and how to use the supporting techniques for necessary activities. Excessive rules and procedures may have the opposite effect on the desired outcome of NSD project. This research paper assists practitioners in developing new public services by providing the guideline of the NSD process framework, and contributes to a better understanding of how public organizations can manage their NSD projects more effectively.

This paper is constrained by some limitations that are addressed further. The paper proposes a phase-based process model to describe the NSD process. However, more evidences are expected to align the new public service development process with theses discrete phases and possible activities within them. Moreover, the NSD phases and activities including many other factors that influence deliverables from each phase should be further investigated in the real world cases and updated accordingly.

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