



Understanding Citizen Actions in Public Encounters

Towards a Multi-Channel Process Model

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ABSTRACT

This paper presents ongoing research that is part of a larger engaged research project which aims to investigate what public services are suitable for digitalization. The aim of our paper is twofold. First, we explore and describe citizens' core actions in their interaction with public organizations during application for public benefits. We develop a generic process model for how this interaction can be captured empirically. The model is based on a review of previous studies from e.g., channel choice, multi-channel management, and service management, and provides a holistic view of the core actions in public service delivery as seen from the perspective of the citizen. Second, we add a channel behavior dimension to this model to create a service blueprint template that can be used to capture and analyze citizens' multichannel behavior related to benefit application. Hereby we contribute to the digital government field with a research methodology for investigation of citizens' continuous channel behavior during public service encounters.

CCS CONCEPTS

• **Social and professional topics**; • **Professional topics**; • **Management of computing and information systems**;

KEYWORDS

Public Service, Citizen Perspective, Co-Production, Channel-Choice, Process Model

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1 INTRODUCTION

Public organizations increasingly seek to digitalize their services and past decades have given us many examples of how difficult this task is. The initial technological enthusiasm which informed early policy documents and academic studies on public digitalization has since been met with sobering empirical evidence [1, 2]. While many citizens have adopted digital channels, as part of their public

encounters, they hold on to traditional channels as well, especially when problems occur and when people perceive the service in question as important [3, 4]. To improve the service provision, we must understand public service encounters from the perspective of citizens.

Within the digital government and public administration fields, several studies have contributed relevant knowledge for our understanding of the digital provision of public services. For example, [5] argue that public services are different from services offered by the private sector, and consequently requires its own form of management with a service dominant approach focused on co-production [5]. Another important contribution comes from adoption studies, which are grounded in frameworks such as TAM (the Technology Adoption Model) and DOI (Diffusion of Innovations) [6–8]. These latter studies mostly apply a quantitative approach and variance models to measure the factors which influence people's intention to use a technology. They have contributed to our knowledge of technology adoption by explaining how people's perceptions of a technology's usefulness and ease of use influence the intention to use the technology. However, as they are grounded in variance models, they focus on the single point in time where people decide to use a digital service or reject it. This is a limited part of the overall process where citizens encounter and interact with public organizations.

Previous studies on citizens' interaction with public organizations show that citizens' digital public encounters may consist of numerous steps and actions [9], and can occur across both traditional and digital communication channels [3, 10, 11]. These studies have contributed with important knowledge on selected aspects of government-to-citizen interaction and how it can be managed. However, we are unaware of any detailed frameworks that illustrate and help capture an entire application process for public benefits from the perspective of citizens.

1.1 Research purpose and questions

The aim of our paper is twofold. First, we explore and describe citizens' core activities in the interaction with public organizations during benefit application. Next, we investigate and suggest how this interaction can be captured in empirical studies. We are guided by the following research questions:

- RQ1: What are the core citizen actions in their interaction with public organizations during application for public benefits?
- RQ2: How can the interaction between citizens and government organizations be captured and analyzed, from the citizen perspective?



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This study is important in several ways. We offer a conceptual contribution to the digital government and public administrative fields by exploring and illustrating how the process of applying for public benefit can play out in its entirety from a citizen perspective. Following Blaike [12], “good description is a vital part of social research” (p. 60), and fundamental for further theoretical development and practical problem solving [12]. Further, we offer a contribution to research practice by illustrating how our proposed process model can be applied in empirical studies to capture and analyze aspects of citizen-government-interaction.

This paper is structured as follows. Section 2 presents our research approach. Section 3 presents previous research to inform and position our study and highlight the gaps we seek to address. Section 4 presents our findings and the process model, while section 5 applies and discusses the model in relation to service blueprinting and channel behavior, as well as a fictional case. Finally, section 6 presents our conclusion, limitations, and suggestions for future studies.

2 RESEARCH APPROACH

Our study is part of a larger engaged research project which aims to investigate what public services are suitable for digitalization [13]. Following Mathiassen’s classification [14], we regard this study as a research methodology investigation, with an “emphasis on developing new or revised research methods” (p. 19). In a follow-up study, we aim to apply the method developed here to generate empirical knowledge on citizens’ multichannel behavior for several different public benefit schemes.

As indicated in the introduction, the aim of our study is twofold. We begin by exploring and describing citizens’ core activities in their interaction with public organizations during benefit application. We present a process model for these activities in Section 4. This model is based on our own extensive empirical studies of citizen-government interactions and synthesis of the digital government literature. A simpler version has been used to analyze how digitalization of public services affects citizens’ experiences of administrative burdens [9]. We integrate this model with previous studies [15, 16] and expand it further. To answer our first research question, and inspired by service blueprinting, we have focused on the user perspective, i.e., the citizen actions in the process. Furthermore, based on principles of good theory [17], we have strived to make the model parsimonious, i.e., including as few assumptions, variables, and relationships as possible. Thus, we have strived to identify a set of discrete activities in the process – where each activity in the process model is unique – and outline the basic relationships between these activities. Put together, these activities create a holistic process that is generic enough to apply to most public benefit application processes. While we do not claim that our process model is unique, we have been unable to find a model that fits our research purposes in the literature.

To address the second research question, each activity in the process model is unpacked based on previous work and literature. Our analysis and discussion are guided by our previous work and a hermeneutic literature review [18] covering previous work on channel choice; multi-channel management; service management;

public administration; sociotechnical systems; and digital government. As indicated in our research questions, we are interested in discovering and describing patterns of social processes. In Section 5, we proceed to present a template, inspired by service blueprinting [19, 20] that can be used to capture the user’s activities and channel behavior throughout the process. In our future work, we intend to complement this analysis with empirical data of citizens’ applications for public benefits from an ongoing research project [13].

We perceive the work presented here as an important step towards gaining deeper knowledge on citizens’ co-production of public services in a digital era and as a way of contributing to the continuous evolution of digital government research.

3 PREVIOUS RESEARCH

In line with the public service-dominant approach [5, 21] we understand public services as complex service systems that include human, organizational, and technical elements and processes [22]. This view implies that “the production of a service is dependent upon and is a product of a complex series of, often iterative interactions, between the service user, the service organization and its managers and staff, the physical environment of the service, other organizations and staff supporting the service process, and the broader societal locus of the service” [22] (p. 406). Public services must therefore be seen from a multi-actor and multi-level perspective to understand the system architecture and the institutional arrangements that underpin citizens’ service experiences [23].

3.1 Co-production of public services

At the heart of the public service-dominant approach to public services lies the understanding that the citizen, as a service user, is a shaper, co-producer, and evaluator of the service [22]. The service is co-produced [24] by supplier and citizen as their respective resources are used and combined, putting emphasis on the iterative interaction between supplier and user. To utilize the service offered, the citizen must add necessary knowledge, skills, and resources. If the citizen fails to do so, the service process is negatively affected, and less value will be created. Osborne et al. [5] stress that “coproduction becomes an inalienable component of public services delivery that places the experiences and knowledge of the service user at the heart of effective public service design and delivery” (p.146). Nevertheless, the service supplier and its professionals maintain control of such co-production by structuring the opportunities and mechanisms through which it takes place [25].

Because of the above, designing public services becomes a question of facilitating the citizens’ actions throughout the service process. The service supplier must provide opportunities for citizens to successfully co-produce public service. The need for the service supplier to be engaged in the citizens’ practices inevitably vary across different public services; hence, co-production is seen as a continuum, rather than a steady state. In 2013, Osborne et al. used digital services as an example that involves less co-production; and wrote that digital public services “do not have the interpersonal immediacy of face-to-face contact between the service provider and the service user. Yet even such services do still exhibit coproduction from a services management perspective – even if the coproduction

of such ‘e-services’ is essentially minimal and passive (inputting financial data on yourself or choosing from a list of preset options)” [5]. Today, digital services have evolved to involve more coproduction on the behalf of the citizen. With current digital solutions (year 2022), digital services no longer merely involve ‘minimal and passive’ co-production. Recent research illustrates how digital self-service puts higher demands on citizens’ co-production of the service [9]. Self-services shift tasks from public servants to citizens. Therefore, citizens must have knowledge about public services and administrative routines [26]. Citizens who lack this knowledge often seek help through other channels, which generate additional costs for the public organization supplying the service.

The channel choice (CC) and multichannel management (MCM) branches of digital government research focus on citizens’ multichannel behavior (channel choice, use and evaluation) and how public organizations can orchestrate and manage interactions that occur across multiple analogue and digital channels [3, 27]. These studies have contributed important knowledge towards our understanding of citizens’ interaction with public organizations. For example, they provide us with a useful classification of the various communication channels available for citizen-government interactions. However, recent research shows that while citizens have generally adopted digital channels, they still turn to traditional channels when problems occur, or when something important is at stake [3]. Finally, while these studies have explored how citizen interaction may occur and have presented exemplary user journeys, they have not provided mappings or illustrations which cover an entire application process holistically.

We see a gap in the literature and in the general understanding of public services, concerning how citizens continuously co-produce these service encounters by their choices of communication channels with public organizations. Based on our previous research on digitalization of public services [28], citizens’ digital encounters with the public sector [9, 29] and multi-channel behavior [10, 30, 31], we see a need for combining insights from research on digital government, channel choice, and service management to gain new perspectives on how to investigate the citizens’ perceptions of the interaction process and possibilities to co-produce the service in an efficient manner. As described by Osborne [21], service users “expect effectiveness as a necessary condition of services delivery – but invariably judge their satisfaction upon the basis of process issues” (p. 4). In this study, we wish to contribute to the further understanding of the citizens’ journey through the service process.

3.2 Service design and blueprinting

With increased degree of digitalization of elements of the service process, digital technology plays an increasingly important role in the service system, and it is becoming apparent that public service systems can also be perceived as sociotechnical systems. Therefore, we can learn from classic sociotechnical design when discussing the design of public services. As a sociotechnical system, the public service system is composed by various social- and/or technical parts and elements that are intertwined and interdependent (cf. [32]). Some interdependencies may not be apparent during system design but only become visible when the system is in operation.

For example, flaws in the design of an online form can lead to an increase in telephone calls [10]. Therefore, the system supplier should trace through possible impacts of design choices, across a broad range of system performance characteristics [33]. This highlights that the public service system is designed and must continuously be re-designed, based on continuous evaluation (cf. [34]). Key design choices include how the overall system will operate, how the work will be managed and organized, what form of technology will be required to support this work, and what other organizational systems are required [33]. In our setting, this includes the design of the various communication and interaction channels and their content.

Design choices are typically made by multiple stakeholders with various roles in relation to the system. These stakeholders may not be aware of their role as system designers; challenging the idea of the stereotypical system designer ‘mastermind’. Also, understanding the user is central [33]; for a public service system to be useful, it must meet the needs of both the supplying organization and its users [35]. Here, we focus on the public organization supplying public benefit as the supplier and main designer of the system, and citizens as the main users of the system. According to the sociotechnical design tradition, the users of the system should furthermore be involved in its design [33]. This is however difficult to achieve for such a large and heterogeneous user group as ‘citizens’; it is simply challenging for suppliers to involve a representative sample of users of public service systems and meet all possible and differing needs and demands [28, 35]. In addition to initial user-centric design methods when designing the service system, it is therefore important to find evaluation methods that allow for input from users to affect the continuous re-design and evolution of the system. This challenges public organizations to be context sensitive when designing public service systems and spurs a need for generic, yet scalable and adjustable, models and methods for designing and evaluating public service systems.

A service can be designed and continuously evaluated and developed in many ways. One technique that has gained increased attention is service blueprinting [19, 20]. Service blueprinting can be used to visualize the process of service delivery in a way that highlights the role(s) and relationship(s) of the service user within the service delivery system. Radnor et al. [22] suggest that service blueprinting can be used to better understand service systems and to illustrate the role of co-production in service delivery. Service blueprinting typically involves five main components [19]:

- user actions, at different stages of the service process, including their timing and relationship to other actions;
- the evidence and artefacts of service delivery;
- the ‘front stage’ of the service system, including its participants and actions;
- the ‘back stage’ of the service system, including its participants and actions; and,
- the support systems, actors, and processes required to enable the successful functioning of the service system itself.

This technique can facilitate a holistic view of the service, rather than focusing on discrete elements that make up the service [22]. However, given our interest in identifying the core citizen activities

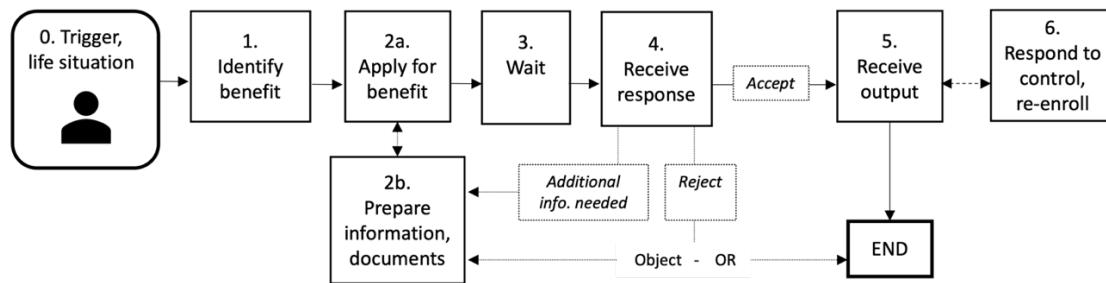


Figure 1: A generic model of the citizen's actions in the application process for public benefit

in the interaction between citizens and public organizations, we will focus on the first of these five components.

4 INTRODUCING A GENERIC MODEL OF CORE CITIZEN ACTIONS

In this section, we present a generic process model for understanding the user actions in public benefit application processes from the perspective of the citizen. This model, presented in figure 1, serves as an answer to our first research question: What are the core citizen actions in their interaction with public organizations during application for public benefits?

In the model, we make an important conceptual distinction between the service delivery process and the benefit application process. The first, service delivery process, refers to the overall public service as interpreted, designed, and delivered by a public authority. The second, benefit application process, refers to the part of the service delivery process that the citizen is actively involved in and hence co-produces. We furthermore use the term benefit, as this denotes what the citizen applies for, i.e., the output of the process in terms of some service or good that is intended to improve the life situation of the citizen, e.g., pension, parental leave, social security benefit, disability benefits/tools. Thus, our process model concerns the benefit applications process (i.e., the part of public service delivery that the citizen co-produces through its actions), where the benefit is the output of the process. In some cases, some other person is undergoing the process in the citizens' stead, e.g., a legal guardian, a next-of-kin [36], or a public official; it is therefore important to note that we focus on benefit application processes where the citizen in need of the benefit is also the one undergoing the process.

We use a generic process model for breaking down the benefit application process into a set of actions. Other scholars have also presented generic process models for understanding the various actions, or steps, in the process. For example, Scholta, and colleagues, present a model comprised of three general steps – preparation, application, and result – that, in turn, are unpacked into several subtasks and for each step, the citizen chooses a communication channel [15]. Similarly, Luna-Reyes, and colleagues, present a process including five stages; information search, form preparation, submitting forms and get a receipt, payment, and getting the results [16]. However, based on our previous research on this topic [9], we lacked steps in the process that deals with the *trigger* of the interaction. Furthermore, we also lacked the stage when the

citizen is waiting for the result of the application process; during this time, many calls are made to make inquiries on the status of the application. Lastly, many benefit application processes feed into new application processes; hence, we saw a need to include a step at the end of the process related to control and re-enrolment. For many social services in the Scandinavian countries, citizens need to apply for services repeatedly. As such, our model is more holistic and elaborate, as it includes more steps throughout the process. In contrast to the model by Luna-Reyes et al., our process model does not include a payment step [16]. This is typical for the Scandinavian context; provision of public welfare service and benefit is typically tax funded and rarely involves payment on behalf of the citizen (although there are some exceptions).

Trigger and life situation. The need to apply for a public benefit is typically triggered by some change in the citizen's life situation. Roughly, the trigger of the process can be of different type and origin. These can be foreseeable events (e.g., coming of legal age, childbirth, pension) or more unforeseeable life events (e.g., death in the family, sickness, disability, unemployment, moving state, divorce). The trigger determines what benefits are relevant for the citizen. Personal factors, such as demographic and socio-economic factors, but also health-related factors [37], are also known to affect citizens' ability to understand the benefit application process [38], and in turn affect citizens' choice of communication channels when interacting with government organizations [39, 40]. The situation/trigger and the citizen's personal factors are likely to interact, e.g., a citizen who is suffering from sudden health issues is likely to be stressed by the situation. Increased stress levels may decrease the citizen's ability to fulfil the activities in the service process and can thus exacerbate vulnerable citizens' life situation [37].

Identify benefits and finding out about the benefit application process (action 1). The citizen's first task is to uncover what benefits the situation merits, the official names of the benefits, and which authorities are responsible for administering them. Part of this task is also to unveil the eligibility criteria for getting access to the benefit [26]. Some public benefits involve universal eligibility criteria, whereas others are means-tested; where means-tested eligibility criteria can be more difficult for the citizen to interpret and understand [41]. The task of identifying benefits and finding out about the benefit application process can be achieved through various channels, e.g., on the authority's website or e-service, through searching the web, through a personal meeting with a public official,

through (physical) information material, telephone, personal connections (e.g., friends and family), non-government organizations, and so on.

Apply for benefits (action 2a,b). The second activity covers the citizen's actual application for the benefit [9, 31]. The application process differs considerably for various benefits, and can be mediated through different channels, e.g., the authority's digital service, personal meeting with a public official, on paper forms that are handed in or sent by mail, through telephone, through a legal guardian, and more. The application includes submitting and endorsing personal information and related documentation. In some cases, all necessary information is already available to the public authority or can easily be submitted by the citizen. In other cases, the citizen must **prepare (2b)** and transmit documentation, e.g., medical certificates, receipts, salary statements, lease agreements, and additional materials. The preparation activities can require a lot of work for the citizen [38] and can also induce stress that negatively affects the citizen's ability to complete the process [37].

Wait for an administrative response (action 3). After the application is submitted, the citizen must await a response. The time the citizen needs to wait can be anything from minutes, to months, depending on the underlying administrative procedures and degree of automation [9, 31]. The citizen often does not have to take further action unless something goes wrong. If a caseworker discovers that the information is incorrect or incomplete, they can ask the citizen to submit additional details. The citizen can be requested to complement the application by preparing and submitting new information (action 2b).

Receive a response (action 4). The application process can result in three possible outcomes: the benefit can be accepted; the application rejected; or the citizen can be asked to complement the application with additional information. The response can be received in different formats and channels, and often require that the citizen must interpret and understand bureaucratic language and terminology [26]. If the citizen is still eligible for a benefit, they may re-apply if their application is rejected. The citizen may also object the rejection. If the citizen chooses to object, this starts a different process (not fully covered here), in which the citizen must prepare information and documentation and possibly re-apply for the service. The objection can be either accepted or rejected. If the citizen accepts the rejection, the process ends.

Output (action 5). If the application is approved, the citizen is entitled the benefit and will receive an output of the process. The output can take different shapes, e.g., payment, permission, service (e.g., personal assistance, free transport), or an artefact (e.g., wheelchair, safety alarm). For some of these outputs, the citizen does not need to take further action and the process ends. For re-occurring outputs, the process may however include a control mechanism (next activity).

Respond to control mechanisms and re-enrollment (action 6). Activities 1-5 concern the entry-process, the enrollment that the citizen needs to go through to receive a public benefit. Once the citizen is 'in', the process may continue. For long-term benefits with continuous output, there may be control mechanisms. For some services, re-enrollment is required with some regularity, such as if the conditions of the citizen changes [31], e.g., in the event of a salary increase or if they move in with a new partner, this may

affect their entitlement to benefits or alter the amount they receive. Therefore, the citizen must report any changed circumstances to the authorities. At some point in time, either based on the nature of the benefit, or upon the suppliers' or citizen's request, the service process ends.

The activities in the model are presented sequentially, this order is likely to be followed for simpler services. However, more complicated service interactions are likely to be iterative; especially when control mechanisms and re-enrollment are present.

5 CAPTURING AND ANALYZING CITIZENS' CHANNEL BEHAVIOR

The process model above is simplified to reduce complexity. We now turn our attention to the second research question: How can the interaction between citizens and government organizations be captured and analyzed, from the citizen perspective? For several activities, the information elicitation and interaction between the citizen and the public authority can be mediated through various information and interaction channels [30, 42], e.g., see examples in figure 2 below.

Typically, the citizen must make an active choice concerning what channel they want to use to find information and interact with the public authority. This is thoroughly addressed in the channel choice literature and in literature on citizens' uptake of e-government services. However, previous studies have typically focused on the interaction taking place in the apply step (activity 2 in our model). Furthermore, it is often implied that these choices are consciously and rationally made by the citizen. What we want to show is that channel choices are made repeatedly during throughout the process. The choice is also likely to be made based on a perception of ease, but not necessarily a conscious choice. Previous research has shown that citizens' CC behavior is initially habitual. Only when people encounter problems, do they evaluate their options [43].

Let us illustrate with a fictional example (figure 3). A citizen has separated and become a single parent; this life situation triggers a need for additional income. Through a meeting with a social worker, the citizen is advised to apply for social benefits through the municipality self-service (1). The citizen goes home and finds the self-service online (2) and starts an application (3). When trying to fill in the required information, the citizen runs into problems understanding what documentation is needed for the application. To resolve this problem, the citizen makes a telephone call to the municipality call center (4) and talks to an employee at the call center. During the phone call, the issues are resolved, and the citizen can thereafter prepare the required documents and attach these to the application (5). The citizen then submits the application (6) and waits for a response. After some time has passed, without reply, the citizen becomes worried that something has gone wrong. The citizen calls the social worker to ask about the status of the errand (7) and is informed that a response will come shortly. After yet some time, the citizen finds an approval response in the self-service system (8) and after more time, an approval letter arrives in the post (9). Thereafter, the citizen receives payment to their bank account and finds a receipt in the self-service system (10). Also, the status of the application/errand in the system has changed to 'closed' (11).

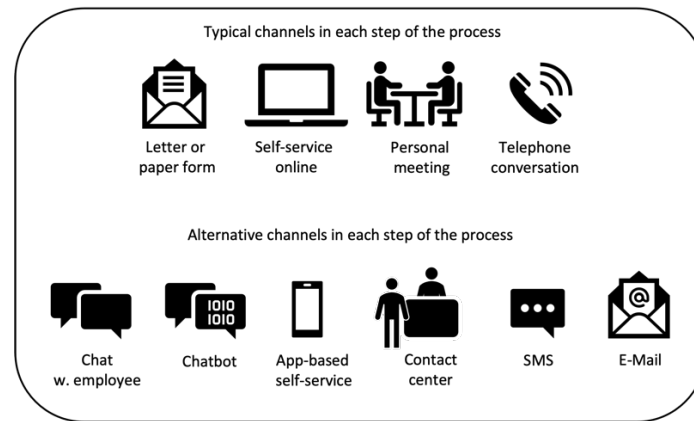


Figure 2: Typical, and alternative, communication and interaction channels available in the service process.

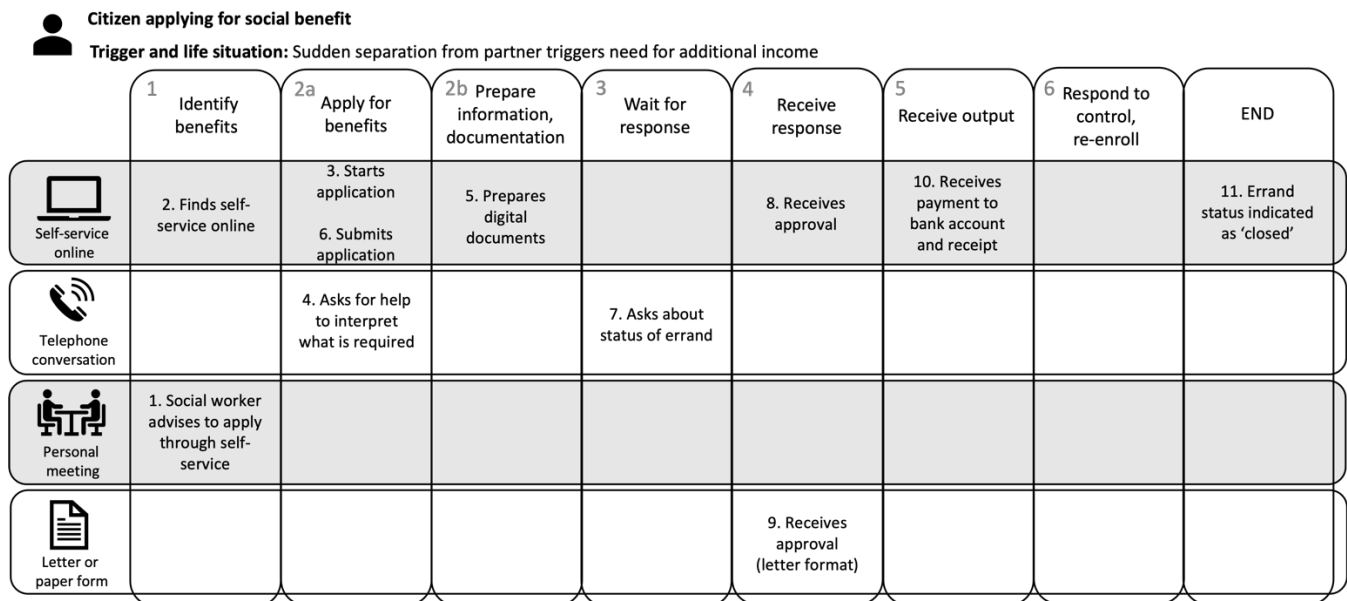


Figure 3: Overview of citizens' possible multi-channel behavior in the application process for social benefits.

How the citizen moves across these actions, and what communication channels the citizen uses, is likely to vary substantially across different kinds of benefit application processes. Also, different citizens will use different channels for communication when moving through the 'same' benefit application process. However, although individual patterns will look differently, general patterns are likely to evolve for particular services if the citizens' interactions are captured using service blueprints like the one presented in Figure 3. The important take-away message is also that, for a particular service, the process can be completely manual and paper-based, it can be fully digital, but it can also be played out in multiple channels simultaneously as the citizen moves from action to action in the process. Furthermore, due to use and integration of digital systems, some activities might be automated and therefore 'invisible' for the citizen. Such invisible activities, such as automated application for

benefits and data transfer may result in interesting patterns, e.g., the citizen might be asked to perform actions for benefits they have not personally applied for.

6 CONCLUSIONS AND FUTURE WORK

The intended contribution of this work is twofold. First, we present a conceptual contribution; a stepwise process model that depicts each action a citizen must perform to apply for public benefits. The model provides a holistic view of the benefit application process; i.e., the part of the public service delivery process that is seen and co-produced by the citizen. Second, we present a methodological contribution; a service blueprint template that can be used to capture and analyze citizens' channel behavior during benefit application. The service blueprint thus captures how the citizen co-produces the service delivery process through its interactions

with various communication and interaction channels (provided by the public organization designing and delivering the public service). Our work hence presents a step on the way of furthering our understanding of how citizens co-produce public service delivery through their channel behavior throughout the various steps of the benefit application process.

The process model and service blueprint can aid empirical studies and theory development for digital government research. If the process model is applied in combination with e.g., CC or MCM theory, it can illuminate citizens' multichannel behavior, the channels used and problems citizen face in an application process, and how citizens contribute to co-production of public services through the use of digital self-service applications.

For practitioners, the process model and blueprint template can be used as diagnostic tools during design and testing of service delivery to ensure that the entire process is covered, and to investigate bottlenecks and problem areas in service delivery.

Public service design cannot solely take a user-centric approach. It must adopt a multi-actor and multi-level approach to fully capture the system architecture and institutional arrangement underpinning user experiences [23]. However, in this paper, we have focused on the citizen perspective and the user actions of the citizens in the public service process. This is only a limited part of the entire service process. In our continued work, we intend to expand this work by including the front-stage part and support systems in this process. Finally, we intend to validate and modify the process model across multiple different public services.

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