

Exploring Citizens' Channel Behavior in Benefit Application

Empirical Examples from Norwegian Welfare Services

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ABSTRACT

After more than a decade of intense digitalization of public service delivery in Scandinavia, scholars and public organizations wonder why many citizens still prefer to use traditional communication channels to interact with government. In this paper, we explore citizens' channel behavior when applying for public benefits from the Norwegian Labour and Welfare Administration (NAV). We break down the application process into separate actions to answer the research question: what causes citizens to use multiple channels in the benefit application process? Based on qualitative semi-structured interviews with frontline workers at NAV, we describe the process citizens undergo when they apply for benefits from NAV, the actions citizens perform, and the problems they experience, which cause them to contact NAV. Frontline workers are interviewed as these are knowledgeable experts on the application process who can give an aggregate account of the various problems citizens encounter. We contribute with empirical descriptions of how two benefit application processes play out in different ways and cause different channel behaviors. Analyses of this kind are important to supply new knowledge for the ongoing digitalization of public welfare service provision to enhance citizens' ability to successfully co-produce the service. Further, we offer contributions to research practice by illustrating how citizens' interaction with public organizations can be studied and analyzed holistically, using a process model for breaking the interaction down into parts.

CCS CONCEPTS

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

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ICEGOV 2022, October 04–07, 2022, Guimarães, Portugal

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ACM ISBN 978-1-4503-9635-6/22/10.

<https://doi.org/10.1145/3560107.3560312>

KEYWORDS

Public Service, Citizen-Government interactions, Channel-Choice, Process Model, Empirical investigation

ACM Reference Format:

Ida Lindgren, Christian Østergaard Madsen, Hanne Höglund Rydén, and Ida Heggertveit. 2022. Exploring Citizens' Channel Behavior in Benefit Application: Empirical Examples from Norwegian Welfare Services. In *15th International Conference on Theory and Practice of Electronic Governance (ICEGOV 2022)*, October 04–07, 2022, Guimarães, Portugal. ACM, New York, NY, USA, 8 pages. <https://doi.org/10.1145/3560107.3560312>

1 INTRODUCTION

In the Scandinavian countries, many citizens are dependent on tax-funded public welfare services and benefits, e.g., old age pension, financial assistance, and parental benefits. To facilitate the application process for such benefits, public organizations provide digital self-service solutions for citizens. This is based on the underlying idea that digital public services make the interaction easier and more efficient for both citizens and government organizations [1, 2]. After over a decade of intense digitalization of public service delivery, scholars and public organizations wonder why many citizens still prefer to use traditional communication channels when approaching the organization. While citizens in general have adopted digital channels, with Scandinavian countries having among the highest uptake of digital technologies and broadband access worldwide [3, 4], citizens hold on to traditional channels. The traditional channels are useful when problems occur and the service in question is especially important to the citizen [5, 6]. The idea of digital self-service being the most efficient way for citizens and public organizations to interact assumes that the digital channel is the *only* channel of communication [7]. With digital self-service, costs associated with telephone support and face-to-face meetings are assumed to go down. Citizens' multi-channel behavior [6] thus drives additional costs for public organizations and can be seen as a sign of insufficient public service design. To improve the service provision and reduce the need for multi-channel communication, we must understand public service encounters from the perspective of citizens: What makes citizens use multiple communication channels when applying for benefits from public organizations?

In this study, we see citizens' channel behavior as part of *public service co-production*: to access and utilize the service offered by public organizations, the citizen must add necessary knowledge,

skills, and resources [8]. If the citizen fails to do so, the service process is negatively affected, and less value will be created. From this perspective, designing public services becomes a question of facilitating the citizens' actions throughout the service process. As described by Osborne [9], service users “*expect effectiveness as a necessary condition of services delivery – but invariably judge their satisfaction upon the basis of process issues*” (p.4). This quote points to the importance of seeing the whole process through which the citizen goes to receive public benefit. Although the final output of the service interaction is important for the citizen, the process to get there is an important influence on citizens' satisfaction with the service output. Also, we argue that the citizen's experience of the service process affects their current and future channel behavior [10].

We see a gap in the literature and in the general understanding of public services, concerning how citizens continuously co-produce public service encounters by their use of different communication channels with public organizations. The channel choice (CC) and multichannel management (MCM) branches of digital government research [11] have contributed important knowledge towards our understanding of citizens' interaction with public organizations. However, previous studies have typically focused on one 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 interact with public organizations. More recent studies on citizens' interaction with public organizations show that citizens' digital public encounters may consist of numerous steps and parallel actions [12–14]. We strive to bridge the identified knowledge gap by combining research on digital government, channel choice, and service management.

In this paper, we aim to explore citizens' channel behavior when applying for public benefit from the Norwegian Labor and Welfare administration (NAV) to address the question: *What causes citizens to use multiple channels in the benefit application process?* This study is important in several ways. We offer methodological contributions to research practice by illustrating how citizens' interaction with public organizations can be studied and analyzed holistically, using a process model for breaking the interaction down into parts. By doing so, we offer empirical illustrations of how two benefit application processes play out differently and cause different channel behaviors. Analyses of this kind are important to supply new knowledge to practitioners and policymakers for the ongoing digitalization of public welfare service provision, and hereby enhance citizens' ability to successfully co-produce the service.

This paper is structured as follows. Section 2 presents previous research to inform and position our study and highlight the gaps we seek to address. Section 3 presents our research approach. Section 4 presents our empirical work involving two benefit application processes. Section 5 presents our discussion of the findings, and Section 6 presents conclusion, limitations, and suggestions for future studies.

2 PREVIOUS RESEARCH

We adhere to the public service-dominant approach [9, 15] to public service. Thus, we see public service delivery as “*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” [16] (p. 406). At the heart of this view on public services lies the understanding that the service is *co-produced* [8] 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 [15]. Nevertheless, the service supplier and its professionals maintain control of such co-production by structuring the opportunities and mechanisms through which it takes place [17]. Consequently, for public service suppliers, designing public services becomes a question of facilitating the citizens' actions throughout the service process.

To support and evaluate the design of a public service delivery process, the service supplier must trace possible impacts of design choices across a broad range of performance characteristics [18]. In our setting, this includes the design of the various communication and interaction channels, their content, and interdependencies. Some interdependencies may not be apparent during system design, but only become visible when the service is in operation and is evaluated. For example, shortcomings in the design of a digital self-service can lead to an increase in citizens' telephone calls to the organization [19]. Hence, the design of the communication channels for a particular service shapes the citizens' ability to act and communicate in various ways. Also, different channels provide the citizen with different opportunities to co-produce the service. For example, digital services are often considered to involve less co-production [15], whereas personal meetings include more opportunities for citizens to coproduce the service. However, Madsen et al. [13] illustrate that digital self-service can put higher demands on citizens' co-production of the service; when self-service is applied, administrative work is transferred from public servants to citizens. Consequently, digital self-service implies that citizens must have knowledge about public services and administrative routines [20–22]. Citizens who lack this knowledge often seek help through other channels, which generate additional costs for the public organization supplying the service [6].

Public service design and delivery must be continuously evaluated and developed. Service blueprinting is a technique that has gained attention for these tasks [23, 24]. Service blueprinting can be used to visualize the process of service delivery to highlight the role(s) and relationship(s) of the service user within the service delivery system [16]. Service blueprinting often involves five main components [23], where participants, actions, and artefacts are central building blocks. Typically, a differentiation is made between the ‘front stage’ (what the service recipient can see and interact with) and ‘backstage’ (invisible to the service recipient). This technique can facilitate a holistic view of the service, rather than focusing on discrete elements that make up the service [16]. In this paper, we are inspired by service blueprinting, but we have delimited our use of this technique to focus on the front stage, i.e., citizen actions throughout the benefit application process, including the timing and relationships to other actions.

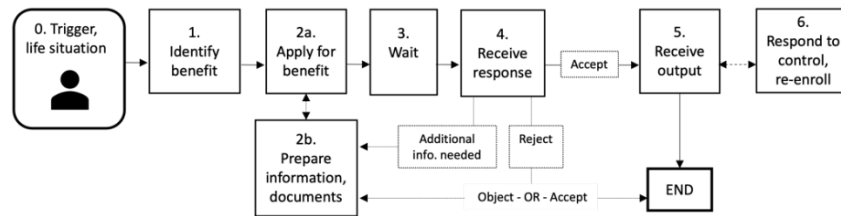


Figure 1: A generic model of the citizen's actions in the application process for public benefit (Lindgren and Madsen, 2022)

2.1 Conceptualizing the benefit application process

To identify, analyze and visualize citizens' actions and channel behavior, we apply a generic process model, presented by Lindgren and Madsen [12] for data collection and analysis. The model breaks down the benefit application process into a set of steps and actions. Similar models can be found in the literature (e.g., [14, 25]). However, we find the model by Lindgren and Madsen [12] to be the most fitting for our research purpose because it is more detailed and developed in a Scandinavian welfare context.

The model comprises six actions (see Figure 1). Simplified, the trigger of the application process (action 0) can be foreseeable events (e.g., coming of legal age, childbirth, pension) or more unforeseeable life events (e.g., death in the family, disability, unemployment, moving state, divorce). This trigger determines what benefits are relevant for the citizen. Personal, demographic, and socio-economic factors [21], as well as health-related factors [26], are relevant for understanding the trigger, as these affect the citizen's ability to understand the application process and their channel choice [27].

The citizen's first action is to identify the benefit (action 1). This includes uncovering what benefits the situation merits, the official names of the benefits, and what authorities are responsible for administering them. The citizen then needs to apply for the benefit (action 2). The application process differs considerably for various benefits. 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 and transmit information and documentation (action 2b), e.g., medical certificates, receipts, salary statements, lease agreements, and additional materials. Once the application is submitted, the citizen must wait (action 3) for a response. Citizens often do 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. Thus, the citizen can be requested to complement the application by preparing and submitting new information (action 2b). After some time, the citizen receives a response (action 4). The response, or decision, can be received in different formats and channels and often requires that the citizen is able to interpret and understand bureaucratic language and terminology [20, 21]. The application process can result in three possible outcomes: the application can be accepted; it can be rejected; or the citizen can be asked to complement the application with additional information. If the citizen is still eligible for a benefit, they may re-apply if their application is rejected. The citizen may also object the decision. If the citizen chooses to object, a different process starts (not fully covered

here), where they must prepare information and documentation and possibly re-apply for the service.

If the application is accepted, the citizen is entitled the benefit and receives an output (action 5). This output can take different shapes, e.g., economic payment, a permission to do something (e.g., building or parking permit), receive a service (e.g., personal assistance, free transport), an artefact (e.g., wheelchair), or a combination of service and good (e.g., safety alarm). Some outputs are one-offs, while others are recurring. For one-off outputs, the process ends, and the citizen does not need to take further action. For re-occurring outputs, however, the process may include control mechanisms or continuous re-enrollment (action 6). In some cases, regular re-enrollment is required, for instance if the conditions of the citizen changes, e.g., salary increases may affect citizens' entitlement to benefits or alter the amount they receive. Therefore, the citizen must report any changed circumstances to the authorities. At some point, either based on the nature of the benefit, or upon the suppliers' or citizen's request, the service process ends.

Each action be conducted 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. The model is simplified to reduce complexity [12]. In an empirical setting, the benefit application can involve fewer or additional actions. The actions in the model are furthermore presented sequentially in the order which will likely be followed for simpler services. However, more complicated service interactions are often iterative; especially when control mechanisms and re-enrolment are present.

3 RESEARCH APPROACH

The study presented here is part of a larger engaged research project which aims to investigate what public services and benefits are suitable for digitalization [28]. We collaborate with the Norwegian Labor and Welfare Administration, called NAV. NAV administers approximately one third of the Norwegian national budget through various benefit schemes. For our overall research project, we have selected four benefit areas for in-depth studies and comparison, based on the principle of maximum variation sampling [29]. We analyzed data from an annual survey of citizens' who receive benefits from NAV and data on inbound channel traffic from citizens to NAV. We selected the four benefit areas which generate the most and the least traffic on traditional and digital channels. For the study presented here, we deliberately focus on two benefits, Old Age Pension (OAP) and Financial Assistance (FA), at a high level of abstraction. These two benefits are the most extreme and diverse in

Table 1: Interview data

Benefit area	Participants	Duration
Old Age Pension	P1 Group interview with two frontline workers	1 hour, 35 min.
	P2 Group interview with two frontline workers	55 minutes.
	P3 Interview with IT architect	1 hour, 40 min.
Financial Assistance	F1 Group interview with two IT-designers	1 hour, 20 min.
	F2 Group interview with two frontline workers	1 hour, 19 min.
	F3 Group interview with two frontline workers	1 hour, 53 min.
<i>Total</i>	<i>Six interviews with 11 participants</i>	<i>8 hours, 52 min.</i>

terms of citizens' channel behavior. OAP has a high digital application rate, and the lowest amount of traffic on traditional channels across NAV's benefit areas. We chose FA because of its low digital application rate and high amount of inbound channel traffic on traditional channels.

In this paper, we explore and describe the process citizens undergo when they apply for OAP and FA, and the problems they encounter in the process. Following Blaikie [30], "*good description is a vital part of social research*" (p.60), we offer empirical descriptions to the digital government and public administrative fields by exploring and illustrating how the application process can occur in different ways. We base the current study on interviews with frontline workers, i.e., professionals working at NAV's contact center, supporting citizens through physical meetings (at the counter), telephone calls, chat, and e-mail. Following Eisenhart and Graebner [31], we regard these frontline workers as highly knowledgeable informants, who can provide a high level and aggregate picture of, as well as useful retrospectives on, citizens' interactions with NAV and the most frequent problems which cause citizens to contact NAV. Frontline workers are experts on this topic, as they have long experience of helping citizens during benefit application. Thus, we do not seek an understanding of individual citizens' personal experiences [30], but rather an aggregated summary of citizens' actions and the most frequently encountered problems during benefit application. The results from the present study will inform our follow-up studies, which include in-situ interviews and observations of citizens' interaction with NAV across all four benefit areas.

For contextualization, we used information about the included benefits and NAV's yearly user surveys (*Brugerundersøkelser*), openly accessible through nav.no. We applied the process model by Lindgren and Madsen [12] to structure the interview guide. We analyzed the interviews based on a qualitative, interpretive approach [32, 33] and applied the process model by Lindgren and Madsen [12] again as our analytical lens. Table 1 presents information about the interviews. For the participants' convenience, some interviews were conducted with two participants at once.

4 FINDINGS

In this section, we present the application processes for two benefits, Old Age Pension and Financial Assistance, and the problems that cause citizens to contact NAV.

4.1 The Old Age Pension benefit scheme

The Norwegian retirement pension system is comprised of different schemes. The old-age pension (OAP) is a state benefit within the National Insurance Scheme (*Folketrygden*), administered by NAV. OAP constitutes the core of the pensions system and ensures an income for citizens when they retire. OAP can be combined with work and supplementary benefits. The amount of money received each month depends on several factors including the applicant's age, whether OAP is combined with work, and how long the recipient has worked in Norway. The legislation regarding OAP has changed over time and the eligibility regulations depends on when the citizen was born. The OAP is coordinated with disability benefits and pensions from the employer and the pension that government employees receive from the Norwegian Public Service Pension Fund (*Statens Pensjonskasse*). According to NAV, these coordination regulations are among the most complicated regulations they must deal with. Altogether, the benefit is both complex and flexible in nature.

The citizen can apply for OAP between the age of 62 and 75. If an application has not been made by the time the citizen turns 67, NAV sends them a letter. The citizen is encouraged to apply for OAP using a digital self-service provided on the web portal NAV.no. Through this portal, the citizen can also find information about how to apply and gain access to support, e.g., a chat function. To apply digitally, the citizen must have an electronic-ID. On the web portal, the citizen can also calculate their expected pension rate, using a web application. Our informants estimate that roughly 90 % of all applications are made through the digital service. While using the digital self-service and trying to calculate the estimated pension rate, some citizens require telephone support for understanding the legal framework and for understanding how to use the digital self-service (action 1 and 2). Although complicated, the regulations and eligibility criteria underlying this benefit are quite clear to NAV. Consequently, the internal handling of digital applications is automated to a large extent and NAV estimates that roughly 70% of the digital applications are handled automatically. This results in a minimum response time. If the application is accepted, OAP is a long-term benefit, and the citizen receives a monthly payment until their death. In some situations, the terms and conditions of the benefit can be altered after the benefit has been approved, meaning that control and re-enrollment may take place. Figure 2 depicts the *typical* application process, which covers the large majority of applications for Old Age Pension.

We have identified both typical and atypical cases. The atypical cases are interesting, as these are fewer but require more attention

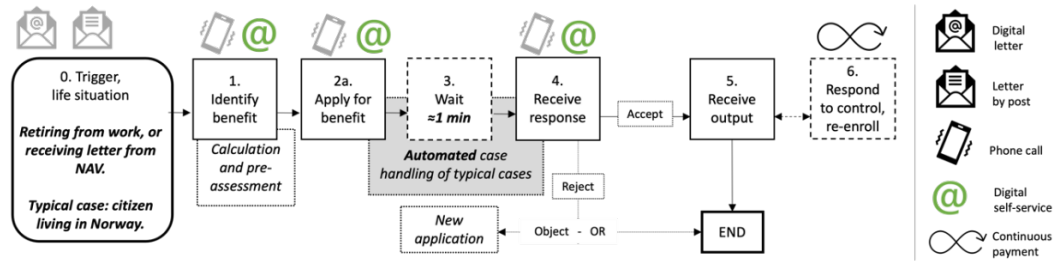


Figure 2: The TYPICAL application process for Old Age Pension.

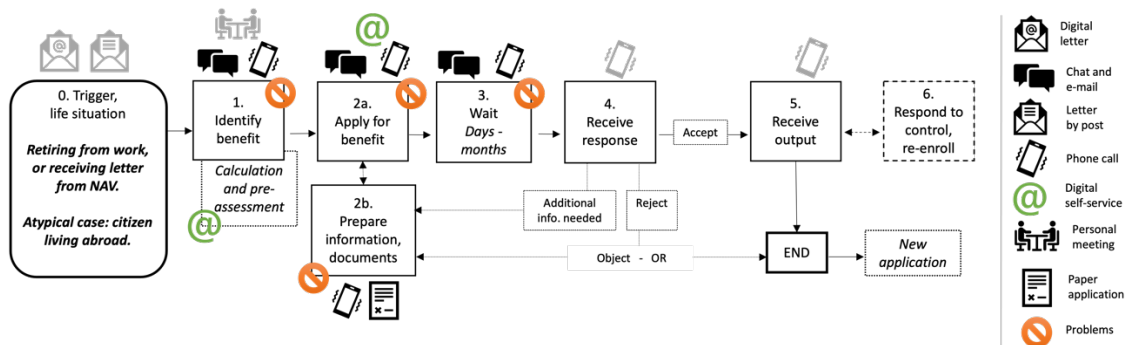


Figure 3: The ATYPICAL application process for Old Age Pension.

and resources from NAV. We have therefore modeled the atypical cases separately in Figure 3. This is also where many problems occur. The application process can deviate from the expected format in various ways (as suggested in Figure 2). Some applications, while digital, do not fit the frames of the automated system. These applications require manual administration, thus prolonging the response time. Citizens can also apply for OAP on paper forms, and these take weeks to process. For some citizens, particularly those who are not residents in Norway, it is not possible to use the digital self-service; mainly because they lack a valid electronic-ID, their cases do not fit with the design of the digital form, or because their cases require that documents are sent in (paper) originals by post. These citizens must call NAV by telephone and request a paper application form, which is sent to them by post. Depending on the complexity of their case, some of these paper-based applications by non-residents can take months to process; in other words, the citizen must wait for a long time to get a response. During the waiting time, citizens contact NAV through telephone, e-mail, or chat, to inquire about the status of their case.

Regardless of what channel the citizen uses to apply for OAP – digital self-service or paper application – information and guidance can be given by telephone, chat, and e-mail. Very rarely, personal meetings are offered for guidance. The legal framework, particularly the coordination of OAP with other pension schemes and benefits, is very complicated. Initially, citizens typically contact NAV with questions regarding how the legal framework should be interpreted in their case. According to the frontline staff, NAV receives the most requests regarding OAP from citizens’ while they

seek information about the benefit (action 1) or while they are applying and preparing documentation (action 2a and 2b). Some citizens also call after receiving the letter at the age of 67 (trigger) or call to understand how a decision was taken and after payment is received, especially if the amount is lower than expected (action 4 and 5). An identified problem that causes citizens to contact NAV, is the language and terminology used in the self-service applications and the letters sent to citizens. For instance, certain terms may have several interpretations, which can make citizens unsure of what documentation to submit. While most inquiries regarding OAP are made on the telephone, some citizens also use chat or e-mails for questions. NAV also has a screen-sharing feature, where the citizen can receive help on their own computer screen while simultaneously talking to a frontline worker on the telephone. The frontline staff can thus help citizens with hands-on tasks in the digital self-service.

As illustrated, the application procedure is particularly problematic for citizens with atypical cases, e.g., those who live abroad. Many of these applicants contact NAV as they struggle to get access to the application form, guidance on how to apply, or to get a status update on their application during the waiting time. Thus, for these citizens, the application process involves more actions than in the typical (mostly automated) process.

4.2 The financial assistance benefit scheme

The Financial Assistance (FA) is a benefit regulated by The Act on Social Services in the Labor and Welfare Administration and is

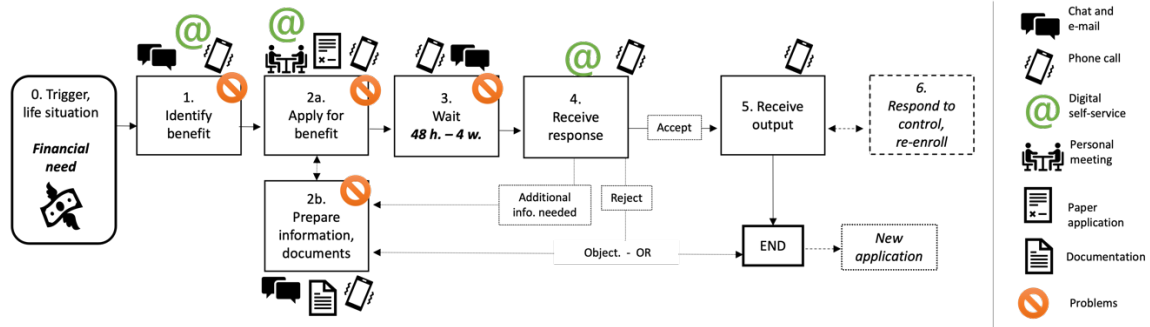


Figure 4: The application process for Financial Assistance.

meant to secure a minimum income for citizens that cannot support themselves financially. The benefit is administered by local, municipality-based, NAV offices. The purpose of the benefit is to provide a one-time and temporary aid for necessary expenses, such as food, clothes, or upcoming bills. There is no fixed rate for FA. The state provides indicative rates, and some municipalities have their own rates. Before the benefit can be approved, all other possibilities for support must be examined. According to the Act of Social Service, all citizens have a right to apply for financial assistance and to receive an individual assessment of their application. In contrast to Old Age Pension, the eligibility criteria are not clearly defined, and the assessment is dependent on the receiving case worker’s professional knowledge and discretion (cf. Lipsky [34]).

Citizens wanting financial assistance must first learn about the eligibility criteria and how to apply (see Figure 4). Most municipalities offer information about FA online and a digital self-service for applying for FA. The application can also be made on paper, where each municipality has its own paper form. Some eligibility criteria are mentioned on the webpage, such as having a legal residence in Norway and not living abroad when applying. There is also a video about the application process on the NAV webpage, but only in Norwegian. According to our informants, many citizens have little or no knowledge of what they are entitled to before they apply for FA (action 1). Citizens can get information at NAV.no and by asking questions in the digital channels, chat, and e-mail. Still, many citizens do not understand this information and contact NAV through telephone as a complement to navigating the website. Many citizens who apply for FA find it difficult to understand the terminology, e.g., some citizens do not know that their savings is defined as an income.

When a citizen contacts NAV by chat or telephone, the frontline worker tries to judge the citizen’s cognitive and digital skills, e.g., language and general understanding, and access to e-ID (necessary to use the digital self-service). Citizens who are found to have sufficient skills, are guided to seek information themselves on the webpage. Citizens who are found to have insufficient understanding, poor language skills, or a need for physical assistance, are sometimes offered a physical meeting with a caseworker at a local NAV office. To hinder unnecessary case work, frontline workers also have a gate-keeping job for the internal caseworkers when it comes to help citizens determine eligibility for this welfare service.

The form used to apply for financial assistance has nine questions (action 2). In addition, applicants must supply NAV with extensive and accurate documentation of their financial situation (action 2b). The documents NAV require differ depending on why the citizen needs financial assistance; therefore, this requirement is not specified. Thus, citizens experience a challenge regarding what documentation to prepare. This challenge is amplified by the fact that the frontline workers do not have insights in citizens’ personal files. While frontline workers can help with many things, the Social Service Act prevents frontline workers to access and share information about the citizens. As a result, the frontline workers recommend citizens to upload any documentation they see could help in assessing their eligibility.

The application processing time varies between municipalities, from 48 hours to several weeks, depending on the severity of citizens’ situation, whether the documentation is in order, and the local municipality’s level of efficiency. As a rule, the applicant must receive a preliminary answer within one month. In case of emergencies, the processing time can be as short as 24 hours. Citizens cannot get information about the status of their cases online. A shared feature for many of those applying for FA is a sense of urgency and NAV therefore receives the most calls from citizens waiting for a response from NAV (action 3). Also, some citizens contact NAV by telephone after they have received a response (action 4) to get help understanding the response from NAV. Due to the flexibility of the benefit, and subsequent lack of clear guidelines on eligibility and what documentation to supply, many citizens apply for financial assistance without being entitled to it. This in turn leads to many rejected applications.

5 DISCUSSION

Although our presentations of the two benefit schemes – Old Age Pension and Financial Assistance – are made on a high abstraction level and thus with little detail, we believe that our illustrations point to several interesting and important findings. First, we illustrate how benefit application is a messy series of iterative interactions between the service user (the citizen) and representatives of the public organization (frontline workers), affected by the physical environment of the benefit (the channels available) (cf. Radnor et al. [16]). Furthermore, we illustrate how the citizen’s knowledge, skills, and resources affect the application process. When the citizen fails to understand the eligibility criteria, or does not have

the necessary resources (e.g., e-ID), this negatively affects the citizen's possibilities to co-produce the benefit application process; as indicated in previous research [8, 15]. Also, our study supports studies that illustrate how the legal and bureaucratic language used by government organizations make public service co-production difficult for those citizens that lack administrative and bureaucratic skills [20, 21].

Second, our examples show that channel choices are made repeatedly during the application process, as also illustrated by Madsen et al. [13]. Current research literature on this topic typically emphasizes that 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 [6, 11, 35, 36]. However, previous studies have typically focused on the interaction taking place during identification and application of benefits (action 1 and 2).

Third, our examples show that citizens cannot always *choose* what channels to use. Previous research has shown that citizens' CC behavior is initially habitual. Only when people encounter problems, do they evaluate their options [37]. Furthermore, it is often implied that these choices are consciously and rationally made by the citizen [11]. In the case of Old Age Pension, we can see that there is a noteworthy difference between the 'typical' and 'atypical' cases. Citizens who are 'typical' and clearly fit the criteria and process for the benefit, can in some respect 'choose' communication channels, considering that all channels 'fit' them. The public organization has, however, designed the application process in a way that rewards the use of the digital self-service; those who use this channel get a quicker response. For citizens with very particular circumstances – the 'atypical' cases – none of the channels really fit and a combination of channels must be used to understand what to apply for and how. For many of the atypical citizens, the digital self-service is not accessible, and they are often forced to use paper applications, whether they want to or not. Previous studies on e-government have discussed how citizens sometimes lack exit options from digital self-services [1], but we illustrate that the traditional paper application may also be mandatory for the citizen if the digital self-service does not fit their case.

Last, the time during which the citizen waits for a response is important when studying citizens' channel behavior. It is clear from both benefits that, if information about the status of the application is not accessible, the citizen contacts the government organization during this time, as indicated by Madsen and Hofmann [6]. Depending on the nature of the benefit, how the digital self-service solution is designed, and how much insight the citizen can have in the status of the application, different channel behavior is promoted. For Financial Assistance, there is often a strong sense of urgency, but the citizen has no means to follow the status of the application online. The lack of transparency in the digital self-service hence drives increased communication in the telephone and face-to-face channels.

6 CONCLUSIONS, LIMITATIONS, AND FUTURE WORK

Citizens' channel behavior is often discussed in terms of citizens choosing what channels to use when interacting with government organizations. Previous studies often regarded CC as a one-time and initial choice. More recent studies have illustrated that choices are made continuously and that citizens also use channels in parallel. In this study, we contribute with empirically based insights, illustrating that citizens may not have a choice concerning what channel to use. We illustrate that through the government organization's design of the process, citizens are sometimes forced to use physical forms and telephone calls, etc. to complete the benefit application process – even when there is a digital self-service entry point to the application process. We furthermore illustrate how digital self-services are designed based on the typical case. Citizens that do not fit the 'typical case' often need to use a combination of communication channels to decipher what they can apply for and how (e.g., citizens living abroad – a trend that is growing due to globalization).

Breaking down the service interaction in separate steps can illuminate citizens' multichannel behavior, the channels used, and problems citizen face in an application process, and how citizens contribute to public service co-production through their use of various communication channels. The process model applied here is highly simplified. Yet, using it in the analysis of the two benefits pointed to several important aspects and weaknesses in the design of the service process. In future work, this analysis should be expanded and deepened, and further perspectives should be included in the analysis. The main limitation with the current study is that it is based on frontline workers' accounts of citizen behavior. This is an excellent starting point for understanding citizens' channel behavior, as the frontline workers are in daily contact with large numbers of citizens. Hence, they can provide us with the aggregated picture of the typical citizen behaviors and problems. In future work, this will be complemented with actual citizen experiences. Furthermore, 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 [38]. In future studies, we intend to include more perspectives, e.g., the back-stage part of the service and its support systems.

ACKNOWLEDGMENTS

This research is sponsored by the Norwegian Labour and Welfare Administration (NAV).

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