

Presenterad, men ej publicerad på SWEG 2018, 31 januari-1 feb 2018,  
Copenhagen Business School.

Omskriven och inskickad till tidskrift i oktober 2018, med "Resubmit" deadline 8 februari 2019:  
Ranerup, A. & Henriksen, H. Z. (resubmitted) "Value positions in digitalization and automated  
decision-making. The case of social services".

## **Value positions in digitalization and automated decision-making in social work**

Agneta Ranerup  
Department of applied technology  
University of Gothenburg  
Sweden

**Abstract.** Studies of values in digitalization of the public sector is a growing stream of research. In the present study, an established framework of values is applied to the specific context of digitalization and robotisation of social work. The framework includes the concepts of Professionalism, Efficiency, Service and Engagement. A content analysis is made of interviews with politicians, civil servants as well as documents. The research question is: *What values appear in digitalization and automation of decision-making in social work?* Improved service levels and citizen centeredness, enhanced internal efficiency due to a streamlined and digitalized processes, and improved accountability through automation were some of the detected values. Congruence between Economic and Service values was found, as well as divergence between instances of values related to Professionalism and Service. These later values contribute to a critical discourse on digitalization and automated decision-making in the form of not being transparent regarding who makes the decisions, a focus on individual responsibility rather than offering economic support and making unwanted changes in the tasks of professionals. A further input to a critical discourse is a new type of Engagement value related to disseminating local models of decision-making and digitalization as a contribution a national, political debate.

### **Introduction**

The issue of digitalization in public sector has, at this point in time, not only reached a level at which New Public Management (NPM) has been replaced by digital era governance in general (Dunleavy, Margetts, Bastow, & Tinkler, 2006), or even by forms of government that is being built on different ways of using the Web and social media (Margetts & Dunleavy, 2013; Andersson, Medaglia & Henriksen, 2012). Digitalization in form of a somewhat futuristic view of automated decision-making or robotisation is increasing in importance in the public sector. This later form of development enables improved services for citizens. At the same time, it makes up a new and contrasting view of the fundamentals of public sector decision-making in form of the independent, albeit somewhat slow, bureaucrat with a significant degree of discretion and transparency regarding the content of the process of making decisions (Lipsky, 2010; Tummers & Bekkers, 2014). This specific development, in the form of digitalization and

automated decision-making, has even found its way into popular culture (“Little Britain”) as well as into more critical drama productions (“Daniel Blake”).

The focus of this study is to examine the values or rationalities that have been important to involved actors in digitalization where automated decision-making plays an important role. Studies of values in general, or sometimes what is denominated as “public values” in digitalization of the public sector, is a growing stream of research (cf., Bannister & Connolly, 2014; Cordella & Bonina, 2012; Persson & Goldkuhl, 2010), that even has become a part of mainstream information system research (Rose, Persson, Heeger & Irani, 2015). In a well-cited publication it has been suggested as a distinct but multifaceted programme for research (Bannister & Connolly, 2014). The value paradigms as such is not a way of focusing on economic value of digitalization (Bannister & Connolly, 2014), but more a way of capturing and discussing the “larger intentions” and aims that lie behind project activities as well as the design and use of technology. This is important from the general point of view of understanding the complex accountability structure and the plurality of stakeholders. This, in turn, is vital to strengthen the potential for success (Rose et al., 2015). Based on a literature study of this stream of research and an empirical study of values among Danish local authority managers, Rose et al. (2015) suggested four value positions reflecting the ideals of *professionalism*, *efficiency*, *service* and *engagement*. Equally important, their framework of value positions might, according to Rose et al., be used in further studies of a cases with a focus on several groups of actors as well as specific technologies. This is the specific intention in our study here, with special reference to digitalization and robotisation of social services in the form of social assistance (eg., financial support under the Social Services Act).

Empirically, the present study focuses on a case of digitalization and robotisation of social services in Sweden. This is what can be characterized as a sensitive area of public sector decision-making, we argue, since it involves people in a weak and vulnerable position (Minas, 2014). Research into digitalization of social services is not large but emergent. Laurent (2008) discussed the introduction of Information and Communication Technology (ICT) in the Belgian social services, suggesting the presence of two logics; “the logic of computerization” and the “logics of social work”, to be a viable factor. Computerization fits well with a professional identity associated with efficiency and less well with proximity and personalization she argued. A broad overview of the “state of the art” of knowledge about digitalization in social services was offered by Svensson and Larsson (2017). They described two “waves” of digitalization; one in the 1980-1990s seen as in contrast to the present one, that involves social media, platforms for gathering and monitoring data but also a basis for providing better services to users. The digitalization of today can, by improved means of communication, enhance the contact with people in need they argued. In an account of three current practice based projects in Sweden they mentioned chats with caseworkers and digitalization of applications for social assistance as frontline experiments. Goldkind, Wolf & Jones (2016) studied how caseworkers in social work acquire knowledge and skills about information technology in their private and professional life, to see how these factors might affect professional use. Caseworkers were no “luddites” or hostile towards new technology. However, the technology that most frequently was used is types that support users’ traditional tasks more effectively, rather than technologies that

support new ways of interaction or interpreting data. Schuppan & Köhl (2017) investigated parents and civil servants' view of the design of a one-stop shop with the aim to ease the administrative burden of parents to children with social needs. The civil servants or caseworkers found many difficulties in the role of such technology and its introduction, whereas the parents were more positive. Curry, van Draanen & Freisthler (2017) investigated experienced and less experienced caseworkers view of a web-based referral system. Both groups found the system as an efficient way to link clients to services and to provide easy documentation. However, more experienced caseworkers were critical about the loss of personal contact and the extra time learning to use the portal, whereas the newer caseworkers used the portal to a higher degree. This brief account of research into digitalization of social work shows an emergent field and praxis, but with a limited focus on issues of decision-making in general, or automated decision-making or robotisation, in particular.

Our focus in this study is not on values at a more programmatic level such as in Bannister & Connolly (2014), or at a general empirical level of digitalization in public sector, such as in Rose et al. (2015). The focus is rather on values in a specific case and technological context represented by on the one hand, social work and, on the other hand, digitalization and robotisation. However, our case represents the more general category of innovation and digitalization of local government (Holgersson, Lindgren, Melin & Axelsson, 2017). Our study is of specific relevance to issues about automated decision-making, the role of civil servants and citizens, involving the question of trust and discretion that have been raised recently (cf., Busch, 2017; Henriksen, 2017; Whilborg, Larsson & Hedström, 2016). By means of a case study of a court, Busch (2017) problematized the role of contextual factors as for example skills and environment of the involved civil servants (judges), but also the influence of the technology in use on the ability to exercise discretion. Henriksen (2018) discussed challenges in relation to policy implementation when introducing rule-based decision-making and discretion in data-driven public administration. Wihlborg et al. (2016) treated the influence of more direct automated decision-making on civil servants in national public agencies in Sweden. Related to issues of legitimacy and professional competence, they suggest that civil servants can either make an alliance with the automated system or the client/citizen. These studies show the relevance of more detailed investigations of contexts with digitalization of case management that include automated decision-making.

In sum, there is a lack of studies of values in digitalization and robotisation in public sector in general and in social work in particular. Our research question is therefore: *What values appear in digitalization and automation of decision-making in social work?* Our contribution is thus an empirical study of values and their relationship in digitalization and robotisation in such contexts.

## **Theory**

In order to understand the rationale behind digital era governance, different attempts to describe the somewhat more mundane rationalities of more directly expressed intensions with implementing information technology of a certain kind, as well as more abstract frameworks of public values associated with digitalization, have emerged. Since the intension with this study is

not to make a full account of these views and frameworks, but to apply one specific framework (Rose et al., 2015) in a specific context, this section will be kept comparatively brief. However, for example Rose et al. (2015) and Bannister & Connolly (2014) contain significantly richer accounts.

In a straight-forward manner, Ranerup (2006) enquired into the “rationalities” or intensions behind implementing technologies to support school choice in Sweden. The result indicated that not only economic-, service- and networking rationalities emerged, but also Ideological rationalities and those associated with the intension to attain higher political goals or objectives. In a study of innovation in local government, Holgersson et al. (2017) investigated the “basic motivators” in such processes. Incentives and decision priorities that dominated were described in terms of for example ROI, internal winnings, and goodwill towards citizens. Persson & Guldkuhl (2010), in turn, performed a thorough literature review and a case study of ideals and values, finding that as management strategies Bureaucracy and New Public Management, with their respective values, are part of a dialectical structure with what they characterized as e-Government as their practical syntheses. Bannister & Connolly (2014) made a review of the relationship between public values and transformative government, emphasizing the considerable size of these fields. They defined values as a “mode of doing things or an attribute of a way of doing things that is held to be right” (Bannister & Connolly, 2014, p. 120). A taxonomy of what is denominated as “public sector values” are developed that include duty oriented, service oriented and socially oriented values. Last but not least, they argued for a research programme that involves the concept of values to enable a critical perspective on the transformative capacity of ICT. Cordella & Bonina (2012) put forward the view of “public values” as a new paradigm or framework to address ICT-enabled public sector reforms in contrast to the persistent view of NPM as the fundamental framework herein. However, creating public value in such reforms is not simple, they argue, since there is a need to balance competing public values rather than optimizing processes and procedures. Two very recent contributions are Wihlborg, Hedström & Larsson (2017) that put forward the need to discuss “norm-critical” perspectives other than the digital divide and socio-economic issues in relation to how to attain public values. In an empirical study of open government data in Smart City initiatives, Pereira, Macadar, Luciano & Testa (2017) investigated the public values delivered expressed by six “mechanisms”: Efficiency, effectiveness, intrinsic enhancements, transparency, participation and collaboration, finding a positive correlation. Last but not least, Rose et al. (2015) synthesized a model of value positions for e-Government based on an extensive literature review of public administration literature. They developed a similar definition of values as Bannister & Connolly, defined as “*ends-in-view that are tied to assumptions about how information technologies benefit good governance or increase impact*” (Rose et al., 2015, p. 533). They further argued that there is no perfect categorisation scheme and, equally important, values might compete with each other.

Based on literature they defined four “value positions” for managing e-Government, that have different relations to literature about public administration and assumptions about e-Government purposes and technologies herein:

- *Professionalism* “is focused on providing an independent, robust and consistent administration, governed by a rule system based on law, resulting in the public record that is the basis of accountability” [...] [The role of e-Government and technology]: “is to provide a flexible and secure digital public record and to support standardised administrative procedure “ (Rose et al., pp. 539-540), being a form of infrastructure.
- *Efficiency*, in turn, “concerns providing lean and efficient administration that minimises waste of public resources gathered from taxpayers” (Rose et al., p. 539). Here, e-Government and technology herein provides automation or is generally seen as a productivity tool, enabling effectiveness and efficiency.
- “The *Service* ideal involves maximising the utility of government to civil society by providing services directed towards the public good representing values such as public service, citizen orientation, service level and quality” (Rose et al., pp. 540). E-Government’s and technology’s role have been “to improve availability, accessibility and usability of services by providing them online” (Rose et al., pp. 540), meaning that technology is an information-processing tool that change and improve the way citizens communicate with service providers.
- *Engagement* means “engaging with civil society to facilitate policy development in accordance with liberal democratic principles, thus articulating the public good” (Rose et al., pp. 541). E-Government and technology use is thus about supporting deliberation and networking.

They tested their theoretical model on an empirical case involving interview data from managers in many municipalities and contexts, discussing congruent and divergent relationships between appearing public sector values. Persson, Reinwald, Skorve & Nielsen (2017), in turn, tested the model in an analysis of two Danish E-government strategies from 1994 and 2016. In the present study, as suggested by Rose et al. (2015), these four value concepts will be used in our analysis of the values in an empirical case of digitalization and robotisation in the context of social services.

## **Method**

This is a qualitative study of a case where digitalization and robotisation are introduced in social services in a Swedish municipality. The focus is on the values that have been important in a case where decision-making in relation to social assistance in form of income support handled by involved civil servants or caseworkers is digitalized and robotised. The case as such is of special value (sic!), representing the very first municipality where such decisions are digitalized (Svensson & Larsson, 2017) and robotised in Sweden.

The empirical data consists of qualitative interviews (45-60 minutes) with two leading politicians representing the right-wing party and the social democrats during the period 2010-2017. Two interviews with leading civil servants at the Labour market agency in the municipality working with issues related to social welfare in general, and the decision-making in relation to social assistance in particular, are also used. The interviews were recorded and subsequently transcribed. Further types of data are in form of strategic, annual plans and reports (ten instances) from the Labour market agency 2013-2017. We also use more general, outward-looking reports about the intention with the current model by which to manage social

assistance, descriptions of the digitalization of social assistance submitted to national competitions with a focus on innovation, as well as oral and PPT-presentations produced by civil servants presenting the digitalization being a part of this. Triangulation of data is used as a method to strengthen the validity of result. However, all types of data emanates from agencies within the municipality in contrast to external agencies.

In the interviews, open-ended questions were asked with a focus on the pre-history and origins of the current model by which social assistance are managed, how the decision-process involving civil servants and clients/citizens with a focus on social assistance looks like today in contrast to before and why, the technology used by those involved, as well as activities by which to promote and evaluate the model. Regarding the interviews and the two types of documents a directed or deductive content analysis (Cho & Lee, 2014; Hsieh & Shannon, 2005) was pursued. First, the author(s) read and re-read the interviews and documents. Second, in order to avoid that new categories of values other than Rose et al. (2015) are overlooked and their value framework was overemphasized, the data was coded by writing a practice-based description of motivations or values that appeared (“first order concepts”). As a third step, these codes were compared with the used theoretical framework of values, or “second order” concepts; professionalism, efficiency, service, and engagement (Rose et al., 2015). Fourth, during this process, by means of constant comparisons between instances of data with their respective first and second order codes, different “sub-codes” emerged related to the four types of values. Here, representative instances have been selected to appear in the result of the analysis below. As a last step, based on the result of this third step, the theoretical framework of Rose et al., with their four types of values, was questioned and to some degree revised.

## **Result**

### ***Case overview***

Traditionally in Sweden, as well as in the municipality of Trelleborg with 44,000 inhabitants situated in the very south of Sweden, the politically elected assembly for social services and its associated agency manages the decisions about social assistance. However, since 2011 the Labour Market Agency, and its’ politically elected assembly, manages these issues and decisions in the municipality. This change has, at a general level, been uncontroversial in the sense that it has been supported by the right-wing political party in power 2010-2014, as well as by the social democrats in power 2014-until present. A further aspect of this change is a model of management that emphasizes a process perspective on the task of submitting applications for, and deciding about, social assistance that is organized independently of the applicant’s personal situation. Another aspect is to emphasize the ambition that the individual applying for social assistance should be helped to a position in which he/she can support himself/herself (Trelleborg municipality and others, 2015). The model as such; *The Trelleborg model* (“Trelleborgsmodellen”), has attracted attention from a large number of municipalities in Sweden.

According to many sources, the development of the management model has shortened the application process from approximately seven-eight days to one-two days. As a part of implementing this model and making the process of managing the applications easier and

quicker, in September 2015 it became possible to apply for social assistance through the web. These changes meant that those making a renewed application through the web receive a decision much faster. In case an individual is unable to manage such and application process there is a helpdesk in the Town Hall. After an application for social assistance has been submitted by an individual applicant, he or she will very soon, often the next day, be asked to attend a personal meeting with a labour market secretary, rather than a social service caseworker. The decision about the application will, as mentioned, come within one or a few days.

In the municipality, automated-decision making has been introduced in 2016 in social services in a few limited types of decisions. This idea was transferred to the decisions about social services made by caseworkers late 2016. During the Spring of 2017 and onwards, decisions about social assistance have increasingly been managed by a robot. In August 2017 70 % of the applications were partially handled in this way and in 41% of the applications the robot made the decisions and handled the actual payments of social assistance (Trelleborg Municipality, 2017). However, to date rejections or negative decisions have been handled with some involvement of a human caseworker but plans include that in the near future a higher degree of decisions will be made by the robot, albeit there is not an ambition about reaching a 100% degree (Director of company working with automation, Conference with focus on automated decision-making, Oct 6th 2017).

### **Values in interviews**

**Professionalism.** The most common value in the interviews with some of the leading civil servants and politicians was instances saying that well-designed automation contributes to accountability. Trust and accountability is accomplished by specific ways of organizing the management of decisions about social assistance, that include trust in citizens: *You had to send in a lot of documents, that might for example be copies of statements of accounts [...] Now instead, we have trust in the individual. We believe that people want to do their very best.* (Politician no. 2, September 25<sup>th</sup> 2017). A civil servant describes how accountability is safeguarded:

I don't know how many citizens that are aware of that robots make the decisions, but regarding the digitalization at large [...] We controlled all applications in February. [...] Normally, we make a check of every 10th application. [In the control of all applications] all applicants must send in their documents, which is why the decision-process took a longer time than normal. (Civil servant no. 2, September 26<sup>th</sup> 2017).

Regarding citizens, accountability and the role of civil servants, and the role of the later:

The formal decision-process is digitalized and you get your decision the day after you have applied. But the two processes are related. [...] Because the judgment of whether you are willing to be active in the labour market is based on the meeting [between citizens and professionals]. [...] So, when the formal decision is made, this is based on the judgement made by the contact with the human caseworker (Civil servant no. 1, September 26<sup>th</sup> 2017).

On the other hand, there has been some critique among civil servants against the new model in the management of social assistance: *Because some of the caseworkers thought that these things should be handled by the social services [...] and this was so among the professionals. But I think that it didn't affect our activities here.* (Politician no 1, September 26<sup>th</sup> 2017).

**Efficiency.** The most common values put forward by the interviewees were improved efficiency in term of value for money and productivity through digitalization in the management of social welfare at large or in the part that includes automation of decision-making. A politician describes:

No, this is a natural step to make things more efficient. For me, since I was not a part of this process at that time, I can't understand why we don't do this even more, since this is the direction our society is taking. (Politician no. 2, September 25<sup>th</sup> 2017).

However, there were other kinds of values related to Efficiency, a common one being reduced costs for social assistance associated with the focus on labour market issues instead of social welfare in the traditional sense:

But the unique thing about when you apply for social assistance here in Trelleborg is that this process is digitalized. And you meet a civil servant working with labour market issues and not a social worker. And the focus is on to become capable of earning one's own living, irrespective of you can speak a word of Swedish or not. (Civil servant no. 2, September 26<sup>th</sup> 2017).

A number of instances of values related to Efficiency, connected to intentions to disseminate the activities, were also found:

Yes, our activities are very much result-oriented. And this makes it important for us that, preferably, the "whole world" do as we do. So, we can see that it has an effect. Through applying for innovation prizes like the SVEA-prize, and things like that, we get the opportunity to disseminate our model. Think about the responsibility we take for Sweden through this! (Civil servant no. 1, September 26<sup>th</sup> 2017).

However, these activities are costly. Other civil servant argues that there might be a need for disseminating activities but also a need for external funding:

And we very much want to influence how things are done and make more municipalities to follow our method, which is why we have been so willing to welcome visitors. Therefore, this autumn we have said that this takes a lot of time. We said that we should talk to Vinnova [a fund financing technical innovations and research] about doing something together. Then we made an application about the Trelleborg model that in the beginning included 14 municipalities. (Civil servant no. 2, September 26<sup>th</sup> 2017).

**Service.** The interviewed politicians and civil servants emphasized the value of citizen-centeredness of provided digital and other services. This is emphasized by a civil servant: *There have been improvements for people in Trelleborg, for citizens, there is no doubt about that. We*

*can show that the method we have, and the ideals that it contains, has resulted in that more people in Trelleborg have a proper employment. (Civil servant no. 1, September 26th 2017). However, this new way of managing social assistance had another contradictory quality, according to some of the interviewees, that might not be appreciated by all citizens: *The advantages with our way of working is that it is quick, but perhaps it is so that not everyone want the plan that you get [about becoming active in the labour market], but you get it anyhow.* (Politician no. 1, September 26th 2017). The generally improved service level was also emphasized by many of the interviewees: *You don't have to use the digitalized application, it is supposed to be a service to the citizens. So that they can apply from home.* (Politician no. 1, September 26th 2017).*

### **Values in documents and presentations**

**Professionalism.** In the internal and external communication, the intensions with the new ways of working are based on trust in the individual applicant from the side of professionals: *The trust in citizens is too low among public agencies in Sweden. The system is based on the notion that the majority is cheating and the control system is designed according that. The most important thing has been to organize our activities for the majority, instead of the minority (Trelleborg municipality, 2015a, p. 8).*

However, there is also an important value of control to preserve accountability that the civil servants must exercise: *Then the labour market secretary makes a judgement about whether you are willing to accept employment offers or not. In other words, that you are judged as being "active". That judgement is used in the decision-making about social welfare.* (Civil servant, 1, Conference with focus on automated decision-making, Oct 6th 2017).

The automation of civil servant's decision-making as such is based on a thorough analysis of the manual process:

The co-workers' participation is decisive. They know their process and it is this process that has to be thoroughly investigated and optimized in order for it to be automated. Through regular, monthly follow-ups and participation in automation activities, the co-workers are offered an option to "make a difference" (Trelleborg municipality, 2017b, p. 2).

In spite of the potential for automation, there is still a considerable value in human professional knowledge and capacity. A leading civil servant says: *But one should not take away all knowledge about the decision-process from the administration.* (Civil servant no. 1, Conference with focus on automated decision-making, Oct 6th 2017). A leading representative of the company that manages the automation agrees: *A strategy of automation of 80% or 100%? [We should] preserve competence in the areas we have automated.* (Director of company working with automation, Conference with focus on automated decision-making, Oct 6th 2017).

However, different values related to Professionalism, Service and Efficiency are seen as tightly connected:

Maybe you who are working with social welfare know from where these things emanate? "The citizen should be in focus. Service, Accessibility, A simpler, faster, and cheaper decision-process." Actually, the Law of public administration states that all administration should be run in that way. And this will be even more so in 2018, so there are no short-cuts. (Civil servant, 1, Day with focus on automated decision-making, Oct 6th 2017).

### **Efficiency.**

In the 2013 policies from the municipal Labour Market Agency, the Efficiency ideal was well-represented in form of encouraging a reduced dependence on social assistance or welfare in general. This was done through a new focus on employment issues and becoming capable of earning one's own living. Several instances of values related to disseminating this ideal was also found, as for example the following:

The agency launched and presented: "3 billions – to what use?" in Almedalen [a national political conference that runs every summer]. The report focused on the responsibility of the state and municipality level respectively, regarding labour market issues and why the municipal level must spend 3 billions on something which is not part of their responsibility. The seminar was well-attended and the debate was lively, and resulted in many invitations to come and speak as well as to come to the national parliament. (Trelleborg municipality, 2013, p. 3)

In 2014-2016, there was a related focus on values related to Service and Efficiency, mutually influencing each other.

The Labour Market Agency can boast about being the very first municipality in Sweden to offer its citizens a digitalized service, by which to apply for social assistance. This has been possible since September 1<sup>st</sup> and the greatest gain is full access to citizens and a much simpler decision-process for civil servants. In December, more than 62% of the applications was made through this digital service. (Trelleborg municipality 2015b, p. 3)

In 2016 this emphasis on Service and Efficiency values continued, albeit indicating future automated decision-making:

The Labour Market Agency and its political assembly as the first municipality in Sweden introduced a digitalized application process. The work to make the citizens use this facility, and in this manner, simplify the process for them, have a positive result. At the end of 2016, 75% of the applications for social assistance is made through the digitalized service and the goal is to reach 85%. [...] The next step is to automate the decision-process, something which can be accomplished during the first three months of 2017. (Trelleborg municipality, 2016, p. 3.)

The automation and dissemination of activities was in several instances (again) stated to be a part of a larger, national, political agenda:

Now, the municipality of Trelleborg hope to influence the national laws and the national work. Based on our local experiences and results, Trelleborg has shown that there are improvements to be gained in this area. The unclear relationship between state and municipality level, and their respective economic responsibilities, is one such area. Here, municipalities with good relations with local business and a good organisation of labour market issues, should be offered an opportunity to run a pilot project where they are given the main responsibility for these issues instead of the state. (Trelleborg municipality and others, 2015, p. 15).

The plan for 2018 also communicated a value associated with internal and external aspects of Efficiency in disseminating the actual automated decision-making:

The agency is about to start the process of automation. To get a viable size in these activities it is necessary that other municipalities' management and decision-process about social assistance are incorporated. A decision of this have already been taken in our political assembly during the spring of 2017 (No: AMN 2017/35) and several municipalities have said that they are interested in doing so. The next step is to settle the legal arrangements [...] Through this change, more people will be able to support themselves, something which would benefit Sweden as a nation. The Labour Market Agency will spend another 600,000 Skr in 2018 to improve the RPA. (Trelleborg municipality, 2017a, p. 4).

This citation also represents the value of Professionalism, in the sense that legality and accountability are seen as important.

**Service.** Representative instances of values related to Service in documents can be summarized as emphasizing the improved service in form of the shorter time between application, appointment and receiving a decision than before in the new model. Also, the generally improved service level was put forward as an important value, through the 24/7 access due to digitalization. A further instance of Service value is through the manual customer service:

The municipality of Trelleborg has since 2014 chosen to run a customer service that is open to all citizens irrespectively of what they want. [...] The customer service provides help to people who apply for social assistance, and has as its main responsibility to safeguard that the applications are complete when we get them. The result is a streamlined process and that the service to citizens has improved. (Trelleborg municipality, 2015a, p. 7).

## **Concluding discussion**

### *Values in digitalization and automated decision-making*

A first conclusion is that there are multifaceted representations of values associated with Professionalism, Efficiency, and Service but significantly less with Engagement in our case of

digitalization in social work. This is in line with Rose et al. (2015) and Persson et al. (2017). Further, in line with Persson et al. (2017), not so few representations of the values associated with Service and Efficiency are reinforcing each other in the sense that, put simply, better service in form of streamlined and digitalized processes leads to a decrease in the need for social assistance. This means that there was *congruence* between representations of values.

However, a second conclusion is that *divergent* values also exist. This was in form of values related to Professionalism, emphasizing safe and fair decisions about applications for support due to automated decision-making, at the same time as there was no transparency towards citizens as regards the details of decision-making in the new method. This way of managing social assistance was also not in line with some caseworkers' preferences in that they wanted to keep the tasks of managing the decision about social assistance in all its parts. Further, the Service value emphasizing citizens' perspective and utility is well-represented in interviews, documents and further communication. But, as was argued, a consequence of the new way of managing applications was a focus on issues related to becoming active in the labour market, that was not appreciated by all citizens. This was in form of a what can be characterized as a "not appreciated and requested" new service focusing on the aim to accomplish active involvement in the labour market or at least taking steps towards this aim. The divergence in values regarding aspects of automated decision-making related to both professionals and citizens, as well as the improved service that emphasized an increased responsibility of applicants for social assistance, offer important *nuances* to an innovative case. These values are related to issues about decreasing the professionals' discretion in decision-making (Busch, 2017), as well as reducing the transparency as regards who decides from the point of view of those seeking social assistance. The increased emphasis on making applicants active in the labour market, or at least taking steps towards this, might also be seen as a generally positive consequence of implementing information technology (Minas, 2014). Or, alternatively, as being part of a disciplinary program making people do things that they actually don't want or can do. These and similar kinds of issues related to discretion, transparency and disciplinary intentions are clearly part of what can be characterized as a *critical agenda* in research about digital transformation. Further, it is interesting to note that some of these issues of a critical nature are related to the professionals' roles and capabilities, others to those seeking social assistance. Equally important, these values are all of a more general relevance to contexts where digitalization of public services and automated decision-making are introduced. One exception, though, is the seemingly disciplinary agenda or program regarding becoming active in the labour market inherent in our studied context of social work, strengthened by the fact that the involved citizens are in a weak and vulnerable position (Minas, 2014). However, in a truly critical agenda, we argue, these instances of values can also be characterized as positive from the individual applicant's point of view. The introduction of automated decision-making might enable less inequality in treatment due to the built-in detailed regulation (Minas et al., 2014). This kind of positive effect is something that even could be spread through the interest in disseminating the use of automated decision-making outside of the case context that existed, based on a need to get a viable size in the activities (Trelleborg municipality, 2017a). Further, in case the individual become capable of earning his/her own living this might put an end to the vulnerable and weak position.

A partially *new* value is made up of instances related to the Efficiency and Service, we argue, in form of the aspect of activities associated with the intension to disseminate the “Trelleborg model” and the activities in relation to this. This has partly to do with digitalization, partly with a larger and more complex national agenda. The activities and values here are as such, we argue, associated with issues about *institutionalisation* of a way of working and, as a second step, an intension to *translate* the model to other contexts. An interesting issue for further research would be to make a more fine-grained analysis of activities in the involved municipalities and the associated values there. Further, these instances of Efficiency and Economic values related to dissemination, that admittedly has a quite indirect relationship with the local activities, indicate a larger agenda of influencing the general economic conditions for municipalities in relation to the regulation of social work. Further it has to do with the division of labour between them and the state as well as to labour market politics in general. The representations of values related to a simple interpretation of the value of Engagement in the local context are thus few in our case except in the form of this indirect agenda of taking part in a national *deliberation* on the distribution of power and economic responsibilities for social work and labour market issues between municipal and national levels. A third conclusion is therefore that this indicates how digitalization in public sector (“e-Government”) might get a value outside of its local context, and that this value might be related to deliberation and other values of Engagement. A tentative interpretation of why this is so in our case here, is the specific character of the actual context of social work and labour market policy in a political climate that to a considerable degree is dominated by worries about how different groups should become part of a society and able to support themselves. Another issue is the somewhat futuristic character of the involved technology (“robotisation” in public sector decision-making). Both aspects are therefore of importance as indicators of a potential Engagement value and an interesting issue in further research.

An intension in the present study has been to apply a specific framework of values in a specific organisational and technical context, including more than one type of human actor as suggested by Rose et al. (2015). At face value, our focus here in one specific context is thus more precise. However, in the analysis of interviews and documents from a process of digitalization and robotisation there is *de facto* no distinct limit between, on the one hand, values related to the digitalization effort and, on the other hand, its larger context. In our case, this context is in form of the introduction of a new way to manage applications for social assistance as a central component of the “Trelleborg model”. This might be seen as a necessary consequence of a focus on evaluating values in real-life settings, we argue, instead of outlining yet another new framework of values based on literature. Further, in contrast to Rose et al. (2015) and Persson et al. (2017), our focus has been on values expressed by various types of human actors, documents and communication. This might enable an analysis that differs between values represented by them (eg., politicians, civil servants, internal political documentation, external documentation designed to market activities etcetera). In our study, such analysis has been difficult to pursue due to the fact that many sources combine a political and civil servant perspective and input. A simple example is the yearly reports from the municipal Labour Market Agency (cf., Trelleborg municipality, 2013; 2015b; 2016). A fully-fledged analysis of differences

in time, in line with the Persson et al. (2017) analysis of IT-strategies from 1994 and 2016 respectively, is also difficult. This is due to the multifaceted involved human actors and data. A detailed, longitudinal analysis and comparison of different groups of human actors (politicians, civil servants), documents (internal, external) and ways of communicating (talks, workshops, films, newsletters) that was part of the Trelleborg case during an extended period in time is difficult to pursue. Nevertheless, it has been possible to *indicate* some differences in values during the course of the process.

### *Contribution and limitation*

The contribution of the present study is the application of the Rose et al. (2015) framework of values in a case environment with a specific repertoire of technologies that include digitalization in general and robotisation in decision-making in particular. Our application of the theoretical framework is based on multifaceted actors' intensions and various types of data, in contrast to one group of actors (Rose et al., 2015) or one type of data (Persson et al., 2017). This enables a holistic analysis of values. Another contribution is in form of a study with a focus on digitalization and robotisation in case management within social services. Previous studies indicate an emergent interest in digitalization (cf., Curry et al., 2017; Goldkind et al., 2017; Svensson & Larsson, 2017), however with a limited focus on automated decision-making. Thus, the strength of the present study is associated with these aspects, both related to a detailed, specific, and multifaceted case environment. Most important is the combination of theoretical framework to detect divergent values, based on data and, on the other hand, the specific case context. This enabled a result in form of values that contribute to a critical agenda in research about digitalization in public sector. The validity of result is, we argue, strengthened by the application of the framework on several types of data.

A weakness of the present study is the absence of citizens, except in form of statistics of use related to the digitalization and robotisation. Further studies should therefore include users. Another relevant theme is a more thorough analysis of the case management process and the interaction between, on the one hand, humans in form of caseworkers and citizens and, on the other hand, the different instances of technology. A last relevant theme is, as suggested above, to study the translations of the specific model by which to handle case management and decisions about social assistance to other municipalities. The empirical context here is a current national project involving a selection of municipalities, a national public agency like the SALAR and the Trelleborg municipality itself.

### **References**

Andersson, K. N. , Medaglia, R. & Henriksen, H. Z. (2012). Social media in public healthcare: Impact domain propositions. *Government Information Quarterly*, 29 (4), 462-469.

Bannister, F. & Connolly, R. (2014). ICT, public values and transformative government: A framework and programme for research. *Government Information Quarterly*, 31, 119-128.

Busch, P. A. (2017). The role of contextual factors in the influence of ICT on street-level discretion. *Proceedings of the 50<sup>th</sup> Hawaii International Conference on System Sciences*, IEEE.

- Cho, J. Y. & Lee, E-H. (2014). Reducing confusion about Grounded Theory and Qualitative Content Analysis: similarities and differences. *The Qualitative Report*, 19 (32), 1-20.
- Cordella, A. & Bonina, C. M. (2012). A public value perspective for ICT enabled public sector reform: a theoretical reflection. *Government Information Quarterly*, 29, 512-520.
- Curry, S. R., van Draanen, J. & Freisthler, B. (2017). Perceptions and use of a web-based referral system in child welfare: differences by caseworkers' tenure. *Journal of Technology in Human Services*, 35 (2), 152-168.
- Dunleavy, P., Margetts, H., Bastow, S. and Tinkler, J. (2006), New public management is dead—long live digital-era governance, *Journal of Public Administration Research and Theory*, 16, 467-494.
- Goldkind, L., Wolf, L. & Jones, J. (2016). Late adapters? How social workers acquire knowledge and skills about technology tools. *Journal of Technology in Human Services*, 34(4), 338-358.
- Henriksen, H. Z. (2018). One step forward and two steps back: e-Government policies in practice. In: Gil-Garcia J., Pardo T., Luna-Reyes L. (eds) Policy Analytics, Modelling, and Informatics. Public Administration and Information Technology, vol. 24. Springer, Cham.
- Holgerson, J., Lindgren, I., Melin, U. & Axelsson, K. (2017). Not another new wine in the same old bottles – motivators and innovation in local government e-service development. *Twenty-Fifth European Conference on Information Systems (ECIS)*, Guimaraes, Portugal.
- Hsieh, H-F. & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15 (9), 1277-1288.
- Laurent, V. (2008). ICT and social work: a question of identities? *The future of identity in information society*. Springer.
- Lipsky, M. (2010). *Street-level bureaucracy: Dilemmas of the individual in Public Services*, Russell Sage Foundation, 30<sup>th</sup> anniversary edn. New York.
- Margetts, H., & Dunleavy, P. (2013). The second wave of digital-era governance: a quasi-paradigm for government on the Web, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* 371 (1987). DOI: 10.1098/rsta.2012.0382
- Minas, R. (2014). One-stop shops: increasing employability and overcoming welfare state fragmentation? *International Journal of Social Welfare*, 23, 40-53.

Minas, R. Bäckman, O., Jakobsen, V., Korpi, T., Lorentzen, T., & Kauppino, T. (2014). *Rescaling inequality? Welfare reform and local variation in social assistance payments*. Working Paper 1/2014. Swedish Institute for Social Research (SOF), Stockholm University.

Pereira, G. V., Macadar, M. A., Luciano, E. M., & Testa, M. G. (2017). Delivering public value through open government data initiatives in a Smart City context, *Information Systems Frontiers*, 19, 213-229.

Persson, A. & Goldkuhl, G. (2010). Government value paradigms – bureaucracy, New Public Management, and e-Government. *Communications of the AIS*, 27, 45-62.

Persson, J. S., Reinwald, A. K., Skorve, E., & Nielsen, P. A. (2017). Value positions in E-government strategies: Soemthing is (not) changing in the state of Denmark. In: *Proceedings of the 25<sup>th</sup> European Conference on Information Systems* (pp. 904-917). The Association of Information Systems (AIS).

Rose, J., Persson, J. S., Heeager, L. T. & Irani, Z. (2015). Managing e-Government: value positions and relationships. *Information Systems Journal*, 25, 531-571.

Schuppan, T., & Köhl, S. (2017). One stop government: stalled vision or a matter of sign? – E findings from social services in Germany. *Proceedings of the 50<sup>th</sup> Hawaii International Conference on Information Systems*, IEEE.

Svensson, L. & Larsson, S. (2017). *Digitalisation and social work: an overview* [Digitalisering och socialt arbete – en kunskapsöversikt.] (Lui reports: Vol. 3, No. 5). Landskrona: Lunds universitets internetinstitut).

Trelleborg municipality (2013). *Report 2013 – Labour Market Agency*. [Årsanalys 2013 – Arbetsmarknadsnämnden.] Trelleborg municipality.

Trelleborg municipality (2015a). *Just continue! A way to better quality* [Orka fullfölja. Det är en kvalitetsfråga.] Trelleborg.

Trelleborg municipality (2015b). *Report 2015 – Labour Market Agency*. [Årsanalys 2015 – Arbetsmarknadsnämnden.] Trelleborg municipality.

Trelleborg municipality, the Agency for Municipal Statistics, & SALAR (2015) *Trelleborg against the trend* [Trelleborg mot trenden]. Trelleborg.

Trelleborg municipality (2016). *Report 2016 – Labour Market Agency*. [Årsanalys 2016 – Arbetsmarknadsnämnden.] Trelleborg municipality.

Trelleborg municipality (2017a) Plan 2018. Labour Market Agency. [Verksamhetsplan 2018. Arbetsmarknadsnämnden]. Trelleborg.

Trelleborg municipality (2017b). *When robots manage the applications the citizens can be served by the professionals. Application for the SVEA prize* [När robotar sköter handläggningen ägnar sig kommunen åt medborgarna. Ansökan till SVEA-priset] Trelleborg municipality.

Tummers, L. & Bekkers, V. (2014). Policy implementation, street-level bureaucracy, and the importance of discretion, *Public Management Review*, 16(4), 527-547.

Whilborg, E., Hedström, K. & Larsson, H. (2017). E-government for all – Norm-critical perspectives and public values in digitalization. *Proceedings of the 50<sup>th</sup> Hawaii International Conference on Information Systems*, IEEE.

Wihlborg, E., Larsson, H. & Hedström, K. (2016). "The Computer Says No!" – A case study on automated decision-making in public authorities. *Proceedings of the 49<sup>th</sup> Hawaii International Conference on System Sciences*, IEEE.