Do digital systems and concepts in modern public service production have a negative impact on citizens as end-users? To answer this research question, we shall first present our theoretical framework 'the institutional logics perspective' and show how we deploy this on modern public service production. Second, we claim that digital systems and concepts develop a new institutional logic within modern public service production: the 'digital logic'. Third, we analyze and discuss the new logic´s possible impact on citizens as end-users. Fourth, we discuss the ethical dimensions of values and ethics in relation to public service production and digitizing.

1. Theoretical framework

Do digital concepts and systems in modern public service production have a negative impact on citizens as end-users? To answer this research question, we will first present our theoretical framework which is 'the institutional logics perspective' (Thornton, Ocasio & Lounsbury, 2013). In addition, we show how this perspective can be deployed on modern public service production.

Thornton, Ocasio and Lounsbury (2013) have further developed Friedland's and Alford´s (1991) theory of 'inter-institutional systems' into 'the institutional logics perspective' which is "a meta-theoretical framework for analyzing the interrelationships among institutions, individuals and organizations in social systems." (Thornton, Ocasio & Lounsbury, 2013:2). Within this theoretical framework an institutional logic is defined as: "the socially constructed, historical patterns of cultural symbols and material practices, including assumptions, values, and beliefs, by which individuals and organizations provide meaning to their daily activity, organize time and space, and reproduce their lives and experiences." (*Ibid*).

Several institutional logics exist in society: family, religion, state, market, profession and local community (*Ibid*:56). Altogether, they constitute the institutional logics from an inter-institutional system or order. Each logic is subsequently defined by some of the same variables or building blocks. These are: root metaphors; sources of legitimacy; sources of authority; the basis of norms; and five more variables, or building blocks. In short, we have institutional logics on the x-axis, and nine variables that define the institutional logics on the

y-axis (see Table 3.2. Revised Inter-institutional System Ideal Types, *Ibid*:72). The definition of the logics conforms with Weber's definition of bureaucracy. That is: logics cannot be found empirically in their ideal forms. One institutional logic exists within an inter-institutional system or order consisting of several logics (e.g. family, state, profession and market). Therefore, an institutional logic will always exist in combination with other logics. Furthermore, institutional logics – whether family, state or other logics – impose constraints on institutions, organizations and individuals. However, it is important to stress that the logics or orders do not **control** individual behavior. Individuals, as agents, can influence and change institutional logics and, thereby, inter-institutional systems or orders over time. When individuals do this, these are turned into institutional entrepreneurs (Thornton, Ocasio & Lounsbury, 2013:8-9). That is Giddens' (1984) concept of structuration or agency-structure perspective built into the 'institutional logics perspective'.

Because of the research question in this contribution, the focus is on how digital systems and concepts change modern public service production in welfare states, as seen from the perspective of citizens as end-users. Consequently, we have to transfer analytically the 'institutional logics perspective' to modern public service production. We do this by defining modern service production as a sub-inter-institutional system or order, based on sub-institutional logics or orders. In modern public service production, the most recognized sub-institutional logics include the following four[1] examples:

1. A Weberian Bureaucracy (WB-logic) (Weber, 1968 [1925]).
2. New Public Management (NPM-logic) (Hood, 1991; Pollitt & Bouckaert, 2004).
3. New Public Governance (NPG-logic) (Osborne, 2006).
4. Street-Level Bureaucracies (SLB-logic) (Lipsky, 1980 & 2010).

We claim that the increasing use of digital systems and concepts in modern public service production, because of 'Digital Era Governance' (Dunleavy 2006), 'Digital Society' (Lupton 2015), 'E-Government' (Buffat, 2015) and 'System-Level Bureaucracies' (Bovens & Zouridis, 2002), are about to develop a new sub-institutional logic within public service production. We will term this new logic the 'digital logic' (D-logic), because the provision, production, delivery and management of public services to citizens as end-users are made and managed via digital systems and concepts (Buffat, 2015; Bovens & Zouridis, 2015).

In the following, we define the institutional sub-logics within modern public service production as a sub-inter-institutional system or order in more detail. The new 'digital logic' is thus included.

Table 1 gives an overview of the basic elements, or building blocks, of the logics.

Table 1: Institutional Sub Logics in Modern Public Service Production as an Inter-Institutional Order

X-axis: Institutional Sub-Logics Y-axis: Basic Elements	Weberian Bureaucracy (WB-logic)	Street-Level Bureaucracy (SLB-logic)	New Public Management (NPM-logic)	New Public Governance (NPG-logic)	Digital Systems & Concepts (D-logic)
Fundamental logic	The state	The profession	The market	The local community	Digitizing
Cultural symbolism	Unity of the state, the public ethos, citizens' obligations and rights	Vocation, professionalism, hands-on approaches, professional ethos and ethics, practice-orientated knowledge	Formation of contracts and markets regarding public service production, self-interest as a significant criterion for prioritization and decision-making	Reliance and competition, mutual dependency, the pluralistic state, governance networks, cooperation and competition	Smart public service production, efficiency, equal treatment of citizens regarding provision of public services, (no discretion)

Materialized practice	Hierarchy, top-down management centrali-zation, standardi-zation, economics of scale, division of labor	Bottom-up management, coping strategies, discretion, production and delivery of welfare services provide in co-operation with citizens as end-users	Intra-organiza-tional management, focus on input and service output, based on citizens' preferences, the citizens as costumers	Intra-organiza-tional governance, focus on service processes and outcomes	Digital systems and concepts as the basis for the provision, production, delivery and management of public services to citizens as end-users. Big data online sets, algorithms and scores
Theoretical origin	The ideal type of bureaucracy	Front-line bureaucracy	Rational choice, market economy	Neo-corporatism	Data science and (revitaliza-tion of) the model of rational decision-making (processes)

Table 2: Institutional Sub Logics within Public Service Production and the Five Key Variables

X-axis: Sub Logics					
Y-axis: Five Variables	WB-logic	SLB-logic	NPM-logic	NPM-logic	D-logic

Type of organization	Sub-unit within state	Street-Level Bureaucracy	Firm	Network organization	Digital sensor organization
Core staff	Bureaucrats	Professionals	Framed professionals	Negotiating professionals	Data scientists
Core products	Standardized, rule-based services	Individualized services based on professionals' discretion and co-producing end-users	Services based on citizens' individual preferences as end-users/customers	Negotiated services	Services provided in accordance with algorithms in digital concepts and score systems
Framework conditions	Hierarchy, provision and management of services on basis of written manuals	Professionals' traditional autonomy combined with co-producing end-users	Framed professional autonomy, competition among organizations and professions	Cooperation and competition among organizations and across professions	Online data sets, big data sets, algorithms and digital systems as infrastructure in public service production

Success criteria	Coherence between services and rules	Fulfill professions' values, standards and traditions in co-operation with end-users	Combine professions' values, standards and traditions with citizens´ preferences as end-users	Cooperation amongst most possible agents for the benefits of citizens as end-users	Coherence among services, data, scores and algorithms

Table 3 gives an overview of the sub logics seen from a managerial perspective.

Table 3: Institutional Sub Logic and Management

X-axis: Sub Logics **Y-axis: Three Managerial Variables**	WB-logic	SLB-logic	NPM-logic	NPG-logic	D-logic
Type of manager	Bureaucrat	Peer manager	CEO	Network facilitator	Data scientist
Type of symbolic-rhetoric	Formalities and authorities	Professionals' intuition, experiences and authorities	Preferences and efficiency	Including net-working	First level data processed by algorithms rather than by intuition and professionals' experiences

Type of practice	Keep rules and control	Empower professionals	Display perfor mances	Consensus	Improve data sources, digital concepts/systems, score systems and algorithms

Now the important question is: Does 'digital logic' exist in modern public service production? We shall answer this question in the next section.

2. Digital concepts and systems in modern public service production

Is it possible to track the institutional sub-logic entitled the 'digital logic' (D-logic), defined above, within modern public service production? To answer this question, we shall first present a Danish case: the Danish welfare state's provision of services to disabled citizens. After this case, some literature on the topic will be presented and discussed.

Since the beginning of this century, more than twenty public sector reforms have been designed and implemented in Denmark (Pedersen & Aagaard, 2015; Pedersen & Lögren, 2012; Pedersen, 2010). The goal of these reforms has been to improve public service production on the following six parameters: 1) the efficiency in daily operations; 2) the quantity of services; 3) the quality of services; 4) the tailoring of services to a single citizen as an end-user; 5) democratic control; and, 6) innovation (Pedersen, 2010:19).

One of the many reforms is the digitizing reform. This reform began in the 00´s and still continues. The goal of this reform has been, and still is, to improve modern public service production, based on the six aforementioned parameters. The reform has been a success: the public sector in Denmark, including public service production, has been ranked very high on various lists of digitizing in public sectors across the OECD (Greve, 2012:55). In addition, Denmark is ranked first in the EU in the index of digital economy and society that includes public service production (European Commission, 2015). At present, the main goal of the reform is to create a 'smarter' public sector, including 'smarter' public service production, via designing and implementing simple, efficient and coherent digital solutions for citizens, firms and employees (Greve, 2012:54).

The digitizing of the provision, production, delivery and management of public welfare services to disabled citizens in Denmark can serve as a case study to show the ambition of creating a 'smarter' service production, and through this advance a 'digital logic' in Danish public service production and the subsequent management of this.[2]

According to the Danish Ministry of Social Affairs, digitizing has been on the Ministry's agenda since the beginning of the 00´s. This is evident in a report from 2005 entitled 'Strategies of Digitizing Social Affairs 2005-2008'. Digitizing is unquestionably still on the agenda: the project of digitizing the assessment, provision, production, delivery and management of services to disabled and vulnerable citizens reflects this very much. The project is the so-called DHUV Project[3] and it consists of two main elements.

The first main element is the manual for how social-workers have to make an assessment of citizens' disabilities and, consequently, the need for public welfare services (Deloitte Business Consulting for Social- og Integrationsministeriet, KL og Socialstyrelsen, 2013). This manual also provides a detailed description on how the provision of services has to be made and also on the production and delivery of these services. Finally, the manual prescribes when and how reassessments have to be made and the consequences of these in terms of future service provision.[4]

The second main element is digitizing the aforementioned manual.[5] This includes the following: the assessment; the production and delivery of services; the management of services; and, the reassessments of the needs for future services done in a digital system.

The key to the DHUV Project lies in social-workers scoring citizens. First, social-workers have to score the consequences of citizens' disabilities in terms of malfunctioning, ranging from 0-4.0 (no problems) and 4-plus (significant problems). Second, social-workers have to score citizens in terms of overall social malfunctioning, ranking from A to E. Together, the two scores show the situations and needs of citizens for public welfare services. In other words, citizens with disabilities will have public welfare services, according to the scores given by social-workers in the mentioned digital system.

The overall intention of the manual and the digital system is to generate almost exclusive online information data on the following four points of consideration: scores given; the

provision of services; the costs of production and the delivery of services; and, the effects of the services provided. What is of fundamental importance here is the stated intention to train social-workers to score citizens in the same way. In other words that the social workers grant citizens, who are in identical situations, the same score to a very high degree. If social-workers score citizens correctly and adhere properly to the manual, then the digital system is designed so that it accumulates data on scores, provision of services, etc. In addition, the digital system can calculate the effects and the costs of the services provided. Consequently, these services can be provided evidence-based and cost-effectively. Moreover, it is managed throughout to ensure resources (tax money) are utilized optimally. To attain this, the managers of public service organizations have to focus clearly on the following points of consideration: correct scoring; correct allocation of resources in term of coherence between scores given and provided services; correct linking of the services provided and the costs of production and delivery; correct management information and a correct score system; and, the allocation of mechanisms. Thus, we can say that managers have to develop a 'digital logic' in their organizations and the subsequence acceptance of this new logic must be developed, so that it becomes the dominant logic within their organizations, regarding assessment, production, delivery and management of services to citizens as end-users. However, the preconditions to do this effectively are many. For example, social-workers must score citizens in accordance with the manuals. The scores, the provided services, the effects of the services and the costs of the services must be linked by and within the digital system. In writing, this is not the case. The conclusion of a project [6] made in 2013 and 2014 regarding the preconditions mentioned was that social-workers did not score citizens correctly. Accordingly, the scores given were too poor to calculate the valid effects of the services provided regarding the end-users' welfare. As a straightforward consequence of this, no valid calculations of cost-effectiveness could be made. This sums up a situation where the services cannot be provided based on neither evidence nor cost-effectiveness. A report from the National Agency of Social Affairs (2015) supports these conclusions.

In spite of these defined difficulties and problems, many efforts are still being made to train social-workers to score correctly. Moreover, many efforts are being made to link the services provided, the effects of these services and the costs of the production and delivery of these services in digital systems.[7] Why is this so? To explain this, we shall introduce the 'staircase' of evidence/cost-effectiveness which is subsequently one way to illustrate a

number of levels of the documentation of effects and costs. The 'design' of the staircase may vary from many levels/steps to just a few. Furthermore, each step can be formulated differently. Below in Figure 1, we show a simple staircase of evidence/cost-effectiveness.

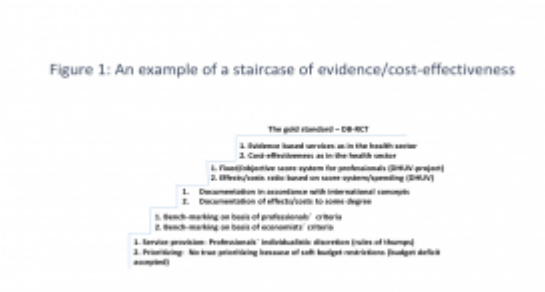

Fig.1

At the lowest level – the step – no documentation of the effects of services and the costs of services exists. At the top level, the effects of services are known on the basis of DB-RCT (double blind randomized controlled/clinical tests). In addition, the cost of the single service is known. This makes it possible to calculate the cost-effectiveness of the services provided which is known from the health care – hospital – system and is considered as the 'gold-standard' regarding the knowledge of effects and resource allocation.

Our case – the provision of services to citizens with disabilities – is placed at the lower steps on the staircase. Some argue for the lowest step (Mandag Morgen, 2015). The argument for this is the professionals' tradition for comprehensive traditional autonomy (Jespersen & Wrede, 2009:156). In our case, this has resulted in a strong tradition of making assessments on the basis of individualistic rules of thumb and soft budget constraints (i.e. the acceptance of budget deficits year after year) (Pedersen & Aagaard, 2015:48-49).

The aforementioned DHUV Project – the digitizing of the provision, production, delivery and management of services to disabled citizens – is a political and political-administrative attempt to move – push and pull – the case up some steps on the staircase. This is not the top step, the 'gold-standard', but it is close enough. Due to the professionals' tradition just mentioned, the DHUV Project has met (strong) resistance from professionals – mainly social-workers – involved in the provision of services to disabled citizens. This resistance has resulted in a 'battle' between the paradigm rooted in co-production and inter-subjective thinking (Alford, 2014; Fledderus *et al.*, 2014; Door, 2014) and the paradigm of evidence/cost-effectiveness.

This 'battle' can also be formulated as thus. Politicians and political-administrative systems

demand that tax money, spent on services to citizens as end-users, shall result in maximum welfare to citizens, something requiring documentation. The main reason for this is the present austerity and cap on taxation which puts both politicians and political-administrative systems under significant pressure to legitimize public service production. One strategy to do this is to implement the 'gold standard' as the basis for public service production. This is why it is important for politicians and the various political administrative systems in Denmark to make the DHUV Project a success: this will pave the way to move towards the 'gold-standard' – towards the paradigm of evidence/cost-effectiveness – in public service production.

From the perspective of managers in public service organizations, they are under increasing pressure to develop 'digital logic' within their organizations and to allow this logic to become dominant in their organizations, instead of the typical combination of the logic of Street-Level Bureaucracies and the logic of a Weberian Bureaucracy (Lipsky, 2010; Pedersen & Aagaard, 2015). According to some case-based research, this is already occurring in some fields of public service production (Bovens & Zouridis, 2002)[8]. According to other research (Lupton, 2015), 'digital logic' is now significant in most public service production to citizens as end-users.

3. Do digital systems and concepts – the 'digital logic' – in modern public service production have a negative impact on citizens as end-users?

We shall now return to our research question: do digital systems and concepts – the 'digital logic' – in modern public service production have a negative impact on citizens as end-users?

Our starting point for answering this question is that citizens as end-users are supposed to be provided directly with services from professionals, who have autonomy and exercise self-management and discretion in daily operations, to become able to offer and provide citizens as end-users with the best possible services (Lipsky, 2010; Bovens & Zouridis, 2002; Buffat, 2015; Jespersen & Wrede, 2009; Pedersen & Aagaard, 2015). In other words, citizens as end-users are supposed to be provided with public services primarily on the basis of the

logic of Street-Level Bureaucracies. The development of the 'digital logic' – digital systems and concepts – in modern public service production and management has significantly changed this starting point (Lupton, 2015; Bovens & Zouridis; Buffat, 2015). Therefore, an interesting question emerges: Does 'digital logic' – digital systems and concepts – empower or depower professionals in public service production? Is the logic of Street-Level Bureaucracies in public service production up- or downgraded via the development of the new 'digital logic'?

'Digital logic' has the potential to do both (Buffat, 2015). In other words, street-level/front-line bureaucrats are empowered/depowered depending on the specific combination of the 'digital logic' and the logic of Street-Level bureaucracies (in combination with other logics) in modern public service production.

According to Bovens & Zouridis (2002), digital systems and concepts will simply eradicate street-level/front-line professionals in the future, that is, the logic of Street-Level Bureaucracies in future public service production. In addition, the former street-level/front-line professionals will first become screen-level bureaucrats (Bovens & Zouridis, 2002:177), and subsequently a kind of data scientist, termed system-bureaucrats operating behind the desks in the back-offices, where they define and fine-tune digital systems and concepts. Furthermore, the combination of algorithms and online data sets in 'digital logic' may outcompete the street-level/front-line professionals – the logic of Street-Level Bureaucracies – because algorithms in many cases are better to make assessments, regarding offering and providing end-users with the best possible services, than street-level/front-line professionals can offer, by making assessments rooted in intuition and personal experiences (Kahnemann, 2011).

However, according to Buffat (2015), far from enough research has been conducted to conclude whether or not 'digital logic' – the digital systems and concepts – in service production empowers or depowers street-level/front-line professionals and subsequently up- or downgrades the logic of Street-Level Bureaucracy. Thus, we cannot clearly answer our research question with a definitive yes or no. As long as we do not know how the new 'digital logic' in modern public service affects professionals – the logic of the Street-Level Bureaucracies, we cannot answer our research question with a definitive answer. In fact, we have to design and conduct much more research on the effects of 'digital logic' on Street-

Level Bureaucracies, a neglected research field in recent years. Furthermore, to answer our research question we also have to design and conduct much more research on the linkages between the empowering/depowering of the professionals, due to the development of 'digital logic', and the impact on citizens as end-users of public services.

To sum up: our research question can, in the above perspective, only be answered on the basis of more empirical research on the linkages among the development of the new 'digital logic' in modern public service production, the logic of Street-Level Bureaucracies and the services offered and provided to citizens as end-users.

4. **Ethics, hermeneutics and institutional analysis: Towards an integrative approach**

One alternative to this research approach may be to analyze and discuss the development of the new 'digital logic' in modern public service production on the basis of values and ethics. That is on the basis of the following question: Are the basic values and ethics in digitals systems and concepts in the 'digital logic' beneficial for citizens as end-users of public services?

In so far as we use critical hermeneutics to interpret institutional processes, organizations and how institutions shape individual action, we are also in accordance with the new institutionalism in sociology (Rendtorff, 2009). From the perspective of this tradition, problems of ethics and values in organizations would be analyzed as problems of how values and ethics shape institutions and how individuals are determined in their value choices and ethical choices by the institutional schemes of cognition, path-dependencies of selection of values and institutional isomorphism, with regard to the powers of institutions in shaping discourses and legitimacy in interaction with the environment. In this context it is, therefore, important to stress that institutional analysis based on critical hermeneutics addresses micro-, meso- and macro-levels of institutionalization through values and ethics in public organizations.

Thus, the aim of critical hermeneutics in institutional and organizational analysis is not only to understand values in institutions and organizations as instruments for economic efficiency, political constructs for stability in decision-making and sociological frames for

the creation of cognitive schemes for common understandings or international regimes for cooperation. In addition to these important functions of values in business institutions, we would rather like to analyze the institutionalization of values in institutional logics in the perspective of normative ethics, dealing with what Habermas conceives as the general interest of society. We would also further analyze what the legal scholar Ronald Dworkin has focused on in regard to legal systems, namely role concepts like 'integrity', 'political morality', rights, fairness and justice, with regard to particular institutional arrangements and market structures (Rendtorff, 2009).

Institutional actors are likely to be reflected in the dialectics of what Weber calls an 'ethics of conviction' (of personal religious belief), on the one hand, and an 'ethics of responsibility' (for consequences of actions), on the other hand. This view of agency presupposes moral autonomy and capacity for the moral action of individuals and this commitment is considered as the basis for normative values of economics and business corporations when acting in economic markets.

This institutional perspective is different from other kinds of institutionalisms, because the object of institutional analysis and ethical deliberation in organizations is, first and foremost, what may be called the 'ethical field' (*champ éthique*). The concept of the 'ethical field', originating in Bourdieu's sociology, indicates that ethics in institutions and markets can be conceived as a social and institutional space with specific actors, practices, technologies and methods. In this social space ethics is part of a game between different economic actors and it is the field of systematic production of ethical decision-making with regard to organizational action (Rendtorff, 2009).

It can be argued that the 'ethical field' may be conceived of as a place where the social cohesion of the public organization dealing with digitalization is tested. The 'ethical field' is a second-order domain of reflection where different rationalities in enterprise are confronted with one another. In the institutional perspective, we may say that the 'ethical field' is a space in the corporation where we experience an emerging intersection between the economic concepts of the allocation of resources, efficiency, growth, competition, risk and reward, incentives and free exchange, the political concepts of power, the procedures of decision-making, organizational stability and resistance to change in addition to the sociological concepts of culture, legitimacy, norms, values and communication and, most

importantly, legal rules and regulations. This ethical space of reflection of action and decision-making is not situated in one place of the institution and its application as a possible discourse may be without borders, even though the scope of ethics is constantly limited by other social fields and institutional rationalities elsewhere.

When we enter into a possible field of ethical reflection, we encounter an inter-subjective dialogue about ethics and values, in particular, and personal norms are tested, according to a model of deliberation about validity and justification of norms. Thus, the ethics of communication provides us with demands for the legitimacy of justification of values and norms in institutional logics.

5. **General ethical issues in relation to information technology, digitalization and ethics with a focus on the performance score logic with citizens**

In addition to the problem of ethical dimensions in the institutionalization of new normativity of the public professionals in the digitalization of the public sector, we can mention some important ethical issues in relation to information technologies. How should we define the ethics of information technology in relation to digital technology? Although relations of causalities may be blurred and complex because of the auto-poietic development of computers and information systems, we may still have to face the fact that human beings are fundamentally responsible behind the actions of computers. Therefore, we can say that the concept of state reliability and accountability is related to legal- and political responsibility in the field of Internet technology.

What is important here is that the protection of freedom of expression and of individual human rights is essential. This includes, for instance, all kinds of statements on the Internet where individuals should be free to express themselves within the limits of the law. Indeed, problems concerning the protection of citizens' privacy when confronted by state power are fundamentally important. However, this also involves the issues of hacking, viruses and intervention in computers. It further addresses the problems of responsibility and the violation of property and copyrights. Therefore, we face similar issues when we talk about physical property rights, although what happens is going on in cyberspace. This is indeed also the case with the increased use of digitalization in connection with the institutional logistics of administrative systems.

Moreover, we face fundamental problems about transparency, power and democracy, as a result of the information revolution in knowledge. It is important to ensure the access and free use of information in relation to the development towards this information society. This development shows how it is becoming increasingly difficult for governments and organizations to hide information and that this information is becoming more and more public, but it should also put limits on the efforts of government to spy on citizens and to deny access to information.

We can talk further about these present developments as a technology-driven information revolution in knowledge society. The information overload is a consequence of this revolution that is expressed on the Internet and which changes the relationship of human beings with society, where the former needs to access information technology and tools to be able to live and work. Therefore, the principles of free expression and the free use of information technologies are essential elements of information ethics in modern societies.

Here we can say that information technology ethics or computer ethics is a development of ethical theory that also involves social ethics, political ethics and business ethics. We can distinguish between what is right and wrong in itself and what is legally permitted, and what is ethically sound but not legally permitted.

We can emphasize that information ethics is about the duty and responsibility of states to protect the rights to democratic and free expression for their citizens. In this context information ethics is about the protection of the rights of humans in the developments towards an advanced information society. In the process of globalization it is important to protect humans and secure and ensure responsible state behavior, in order to protect the rights and freedoms of their citizens. At the level of use of information technology by private businesses or other organizations and institutions, the same kind of responsibility for the protection of humans must be essential. This is what we need to promote when dealing with the ethics of information technology.

The ethics of information technology relates to fundamental issues of society and this is indicated by what Richard de George calls ‘the fundamental themes of information technologies’. He distinguishes between: ‘The myth of amoral computing and information technology’; ‘The lure of the technological imperative’; ‘The Danger of the hidden

superstructure' and 'The acceptance of technological inertia' (De George, 2003). To this we can further add: 'The danger of a totalitarian society'. These themes relate to the fact that the ethics of information technology is not in itself a technical issue, but rather a question of politics and social organization, implying that we have worked reflectively with the ethics of information technology and also that we have the possibility to handle these issues and present important solutions to the problems of the ethics of information technologies.

We can, therefore, say that the concept of reliability and accountability is related to state responsibility in the field of Internet technology and the use of digitalization in the public sector. This should be reflected in an ethics of information technology. The state should ensure the promotion of a free society and the free use of technologies with possible access to all in order to democratize society. Indeed, the corresponding issues of the violation of freedom of expression, the protection of privacy, hacking, viruses and intervention in computers also poses problems of responsibility and the violation of property and copyrights. Thus, we face similar issues when we talk about physical property rights, although what happens is going on in cyberspace.

The essential political philosophy of the Internet must be state responsibility to respect the political, social and cultural human rights of individual citizens and organization, in order to promote a free and democratic society. Internet technology and information technology are the keys to the future, so it is important that democracy, freedom of expression and free access are promoted in the legislation and regulation of Internet technologies. It is the duty of the state to promote democracy, in order to avoid the abuse of the Internet and information technology to protect the freedom of expression of individuals and organization in this society.

The state should be responsible not to become a new Big Brother or Big Mother state, or an information monitoring state. We should work to avoid a totalitarian society which uses the Internet to set limits on the freedom of expression of individuals in society. It is the duty of the state to facilitate the use of information technologies, with the aim of creating a free society that contributes to the protection of political, social and cultural human rights. In order to facilitate this aim of information technologies, we could propose fundamental ethical principles for the protection of humans themselves and human rights as the core of information ethics (Rendtorff & Kemp, 2000). By formulating an ethics of information

technologies, it is important both to protect the individual right to privacy and respect for basic human rights, and also to promote the development of a free society with concern for basic ethical principles.

We experience the world as a distant spectator in this context. However, there is a problem: if an experience of reality needs to have an aspect of engaged action in order to be real, then the experience of the world of the Internet is not real in the sense of bodily engaged phenomenology. It is, rather, the same understanding as someone who experiences the world as the captain of a spaceship, or the experience we have of the world in interactive robot control. With interactive robot control, we have immediate contact with reality. Here, we are in immediate contact with the things that we manipulate.

Merleau-Ponty (Dreyfus 2001) argues that human beings have a need to have a fundamental grip of the world, so that we feel we experience things in unity, so that we have visibility and unity and encounter the world where we exist in unity with the world (Dreyfus, 2001; Dreyfus, 2004). The bodily unity with the world is a fundamental aspect of phenomenology in relation to the world. Our experience of the world is a constant encounter of changing stability and insecurity, and an effort to master this instability and insecurity by adapting and engaging our bodies in the world. We have a fundamental belief in the world – a primordial doxy that governs our encounter with the world and it directs how we engage with it. This is our fundamental belief in the reality of the world where we experience the unity of the body and of the world.

Interaction between human beings and machines in relation to digitalization would, according to this point of view, never be the same as personal interaction. The human presence in the perspective of phenomenology remains a primordial relation that cannot be replaced by the relationship between human beings with the mediation of machines that is proposed by cyberspace.

In this context, information ethics is about leaving space for human freedom in the new world of distant bodily presence. We can say that it is, above all, the right to privacy, echoed by the basic ethical principle that is important. The right to privacy involves the right to be able to avoid the extended technological domination of the private sphere, but also the right to use the technology according to personal desires with the self-limitations of a free and

responsible human being. It is the task of the state to promote this concern for the individual, with the facilitation of the democratization of the use of the internet technologies and technologies for digitalization, both in relation to individuals, but also in relation to organizations and institutions. With this in mind, it must be recognized that social media and networks contain many new democratic possibilities.

6. **Conclusion**

Do digital systems and concepts in modern public service production have a negative impact on citizens as end-users? 'The 'institutional logics perspective' is deployed as an analytical framework in our contribution to answer this research question. According to this perspective and mainstream literature on public service production, at least four institutional sub-logics are involved in public service production. These are: The Weberian Bureaucracy Logic; The New Public Management Logic; The New Public Governance Logic; and, The Street-Level Bureaucracies´ Logic. These four logics are rooted in the state, the market, the local community and the profession, all of which are core institutional logics within the inter-institutional order of society according to 'the institutional logics perspective'. We claim that digital systems and concepts in modern public service production develop a new sub-logic: 'the digital logic'. This logic has the potential both to empower and depower professionals, who directly provide public welfare services to citizens as end-users. In accordance with our case – the provision of public welfare services to disabled citizens in Denmark – and the available literature on the subject, we assume that empowered professionals provide citizens as end-users with better services and vice versa. In some cases the literature illustrates that 'digital logic' will simply eradicate some professions by first turning the professionals into 'screen-level' professionals and subsequently into 'system-bureaucrats' (a kind of data scientists), operating behind a desk – in the back-offices – where they define and fine-tune digital systems and concepts. However, according to our case, professionals can also be empowered by making strategic alliances with their managers, who typically themselves have a background as professionals in the daily operations of public welfare organizations and data scientists. We currently do not have enough empirical research by far, in order to conclude whether or not the general tendency is that professionals are empowered or depowered by 'digital logic'. Therefore, we cannot answer our research question with a clear yes or no. In order to do this, much more empirical research is needed on the precise impact of 'digital logic' on professionals and,

subsequently, on citizens as end-users of public welfare services provided and managed by professionals.

However, an alternative approach to analyze the impact of 'digital logic' on citizens as end-user is to deploy an ethical approach. That is to analyze and discuss how beneficial the basic values of 'digital logic' are to citizens as end-users of public welfare service. The ethical approach can be combined with institutional analysis by focusing on the ethical dimensions of the institutional logic of the institutionalization of digital systems in the public sector. With this we have proposed to combine the institutional analysis with the concept of critical hermeneutics in order to understand the emergence of different norms in the process of digitalization. In addition to ethical institutional analysis it is important to look at the problem of the ethics of information technologies in the public sector. In this context we looked at the discussion of the fundamental principles of the ethics of information technologies in relation to state responsibility and to the protection of human beings in the developments of information technologies. Here, important concepts are concerns for protection of individual rights and privacy and concern for human beings in the context of information technologies. The ethics of information technologies is indeed very important for understanding the emergence of new digital bureaucracy in technology development. Concepts of responsibility, reliability and accountability are related to the concern of the state and public institutions in the field of internet technology. In the ethics of information technology the state should care for the promotion of a free society and free use of technologies with possible access to all in order to democratize society in relation to the increased digitalization of all spheres of social interaction.

References

Alford, John (2014) 'The Multiple Facets of Co-production: Building on the Work of Elinor Ostrom', *Public Management Review*, Vol. 16, No. 3, (March), pp 299-316.

Bovens, Mark & Zouridis, Stavros (2002) 'From Street-Level to System-Level Bureaucracies: How Information and Communication Technology is Transforming Administrative Discretion and Constitutional Control', *Public Administration Review,* Vol. 62, No. 2, pp 174-184.

Buffat, Arélien (2015) 'Street-Level Bureaucracy and E-Government', *Public Management*

Review, Vol. 17, No 1, pp 149-161.

De George, Richard T. (2003) *The Ethics of Information Technologies and Business*, London: Blackwell Publishing.

Door, Carol (2014) *Social Work and Life – Theory and Practice*, Oxford: Oxford University Press.

Dreyfus, Hubert (2001) *On the Internet*, London: Routledge.

Dreyfus, Hubert (2004) 'Kierkegaard and the Internet', Berkeley, Department of Philosophy. Retrieved from http://socrates.berkeley.edu/~hdreyfus/html/paper_kierkegaard.html.

Dunleavy, Patrick; Margetts, Helen & Bastow, Simon (2006) *Digital Era Governance*, Oxford: Oxford University Press.

European Commission (2015) Digital Agenda for Europe – A Europe 2020 Initiative: the Digital Economy and Society Index (DESI).

Fledderus, Joost; Brandsen, Taco & Honingh, Marlies (2014) 'Restoring Trust Through the Co-Production of Public Services: A Theoretical Elaboration', *Public Management Review*, Vol. 16, No. 3, (March), pp 424-443.

Giddens, Anthony (1984) *The Constitution of Society,* Cambridge: Polity Press

Greve, Carsten (2012) *Reformanalyse – Hvordan den offentlige sektor grundlæggende er blevet forandret i 00´erne [Reform Analysis – How the public sector has been changed struturally in the 00´s],* Copenhagen: Jurist- og økonomforbundets Forlag.

Hood, Christopher (1991) 'A Public Management for All Seasons', *Public Administration,* Vol. 69, (Spring), pp 3-19.

Kahneman, Michael (2011) *Thinking – Fast and Slow*, New York: Farrar, Strauss and Giroux.

Kemp, Peter; Rendtorff D., Jacob & Johansen, Mats (2000) *Bioethics and Biolaw*, Copenhagen: Rhodos International Science and Art Publishers.

Kornai, János (1980) *The Economics of Shortage*, Amsterdam: North-Holland Publishing Company.

Lipsky, Michael (1980) *Street-Level Bureaucracy: Dilemmas of the Individual in Public Service*, New York: Russel Sage Foundation.

Lipsky, Michael (2010) *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*, 30th Anniversary expanded edition, New York: Russel Sage Foundation.

Lupton, Deborah (2015) *Digital Society*, London: Routledge.

Mandag Morgen (2015) ’Milliarder bliver brugt i blinde’ [Billions spent without knowledge], *Mandag Morgen*, 2015/2 pp 10 -16.

Osborne, Steven (2006) ‘The New Public Governance’, *Public Management Review*, Vol. 8, No. 16, pp 377-387.

Pedersen, S., John & Hammer, Sveri (2012) ’Nogle konsekvenser af Strukturreformen for medarbejdere, ledere og borgere – Det specialiserede område’ [Some consequences of the Structural Reform for employees, managers and citizens], *Tidsskrift for Arbejdsliv*, 14. Årgang, nr. 4, pp 48-67.

Pedersen, S., John & Löfgren, Karl (2012) ‘Public Sector Reforms: New Public Management without Marketization? The Danish Case’, *International Journal of Public Administration*, Vol. 35, No.7, pp 435-447.

Pedersen, S., John (2010): Reformerne i den offentlige sektor – skab seks plusser!, [Public Sector Reforms – make six plusses!], Copenhagen, Jurist- og Økonomforbundets Forlag.

Pedersen, S. John & Aagaard, Peter (2014) ‘Can public managers make their welfare organizations adapt to the new performance landscape shaped by the current austerity?’,

International Journal of Public Management, August, pp 791 – 800.

Pedersen, S., John & Aagaard, Peter (2015) *Dirigent eller dukke – lederen i reformstaten*, [*Conductor or puppet? The manager in the reform state*], Copenhagen, Gyldendal.

Pollitt, Christopher & Bouckaert, Geert (2004) *Public Management Reform. A Comparative Analysis*, Oxford: Oxford University Press.

Power, Michael (2007) *The Audit Society,* Oxford: Oxford University Press.

Rendtorff, D., Jacob & Kemp, Peter (2000) *Basic Ethical Principles in European Bioethics and Biolaw, Vol. I-II*, Copenhagen and Barcelona: Center for Ethics and Law.

Rendtorff, D., Jacob (2009) *Responsibility, Ethics and Legitimacy of Corporations*, Copenhagen: Copenhagen Business School Press.

Rendtorff, D. Jacob & Mattsson, Jan (2012) 'Ethics in the Bank Internet Encounter: An Explorative Study', *Journal of Information, Communication and Ethics in Society*, Vol. 10, pp 36-51.

Socialstyrelsen (2015) *Evaluering af voksenudredningsmetoden* [*evaluering of VUM*], udført af BDO & CEDI, Copenhagen: Socialstyrelsen

Socialstyrelsen, Social- og integrationsministeriet og KL (2013) *Voksenudredningsmetoden – metodehåndbog [manual for VUM]*, Copenhagen: Socialstyrelsen.

Thornton, Patricia; Ocasio, William & Lounsbury, Michael (2012) *The Institutional Logics Perspective: A New Approach to Culture, Structure and Process*, Oxford: Oxford University Press.

Weber, Max (1968 [1925]): *Economy and Society – An Outline of Interpretive Sociology*, New York: B

Endnotes

[1] There are, of course, other sub logics contained within modern public service production. However, we consider the four mentioned here as the most recognized, because of the strand of literature on these four sub-logics' important role in modern public service production.

[2] In Denmark, approximately 10 percent (approximately 560,000 people) of the population consider themselves as disabled (Larsen & Høgelund 2015:46). The yearly public spending on disabled citizens is approximately 30 billion DDK (Pedersen & Aagaard, 2015).

[3] The Project 'Digitalisering af Handicappede og Udsatte Voksne-området' is abridged to the DHUV Project.

[4] See *Håndbog for Voksenudredningsmetoden* [the handbook for the assessment method for adults] (Socialstyrelsen, Social- og Integrationsministeriet og KL).

[5] See note 4.

[6] John Storm Pedersen did a project for the National Agency of Social Affairs [*Socialstyrelsen*] in 2013 and 2014. The goal of the project was to map the current knowledge/data regarding disabled citizens. In particular, regarding the knowledge/data about linkages among scores given, provided services and the effects and costs of service provision.

[7] This is a group of municipalities, representative in a Danish context, consisting of, among others, Esbjerg, Haderslev, København, Lyngby-Taarbæk and some smaller municipalities on the outskirts of greater Copenhagen.

[8] In the public administration of financial support to students and traffic.