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Original research article

DIGITALISATION AND SOCIAL EXCLUSION: IMPACTS ON THE PRACTICE OF SOCIAL WORKERS

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Abstract

The article addresses digital exclusion as a specific form of social exclusion, which is gaining importance in digitalising public services. Its theoretical foundations define digital exclusion as a lack of access to information and communication technologies or the absence of necessary digital skills, with special attention paid to vulnerable groups – seniors, people with disabilities, and people living in socially excluded localities.

This qualitative survey, conducted in the form of semi-structured interviews with ten social workers, aims to capture specific experiences with the impacts of digitalisation on the practice and clientele of social services.

Data analysis shows that the digital gulf manifests in the absence of technology or connectivity, low client confidence in change, limited digital competence, and insufficient system support. Social workers increasingly act as intermediaries between the digital state and the client – helping with online forms, explaining new processes, and ensuring access to technology.

The results point to systemic shortcomings, such as low awareness, the transfer of responsibility to social services without adequate support, and increasing pressure on their capacities. Mandatory two-factor authentication and frequent technical complications in digital services emerged as significant barriers. Clients often experience frustration with unclear procedures and fear that digitalisation will deepen their exclusion.

In conclusion, the article confirms that digitalisation without emphasising inclusiveness can lead to a deepening of existing inequalities. It emphasises the need to strengthen digital literacy and support mechanisms, and to provide greater systemic coordination between digitalisation processes and social services.

Keywords: *Digitalisation; Inclusion; Literacy; Social exclusion*

INTRODUCTION

The understanding of social exclusion is not uniform. Different definitions emphasise different aspects, e.g., groups at risk, areas of life affected by exclusion, related problems, processes of exclusion and their levels, or different actors involved in it. Typical groups at risk of social exclusion include single parents, and people with suicidal tendencies or addictions. People can be excluded from everyday life, job opportunities, and social security. Exclusion also entails problems such as poverty, crime, health problems, dysfunctional family relationships, or difficult housing situations. Social exclusion can have various causes, such as global processes (globalisation), transnational institutions and states, or excluded individuals or groups (Tuparevska et al., 2020).

An area of social exclusion currently being discussed is digital exclusion. The definition of digital exclusion has undergone a gradual evolution, i.e., from the original classification of "users and non-users" towards a more differentiated concept that considers the diversity of forms, intensities of internet use, and the

level of digital competence. Digital exclusion can generally be described as a state where a specific part of the population lacks adequate access to information and the communication technologies necessary for full participation in society, or lacks the skills to use them effectively (Sanders, 2020).

According to Pérez-Escolar and Canet (2023), the term "digital inclusion" does not mean only the availability of the internet or the use of technology, but includes a broader set of prerequisites that allow people to actively and meaningfully participate in the digital society. This provides access to the necessary hardware and software, quality content, and digital skills and literacy development. Key competences include the ability to search, interpret, and critically evaluate information, respond to digital challenges, and use the internet for personal and professional growth. Digital literacy is a crucial element for overcoming social and digital inequalities.

The vulnerable groups that fall into the group of "non-users" of the internet primarily include the elderly aged 65 years and above, where the number of "non-users" increases. Concerning gender, this group of "non-users" includes primarily women (Office for National Statistics, 2019).

Another large group of internet "non-users" are people with disabilities (a condition in which a person has a physical or mental health problem or illness lasting 12 months or more that limits their ability to carry out everyday activities). The percentage of adults with disabilities who do not use the internet has decreased (in 2018, 23.3% and 6.0% among healthy people) (Office for National Statistics, 2019).

Sanders and Scanlon (2021) point out that millions of people in the USA (especially low-income people, ethnic minorities, seniors, indigenous, and rural populations) still lack access to high-speed internet, which exacerbates socioeconomic inequalities and creates a digital divide. In line with a human rights-based approach to social work, the UN cite the 2016 resolution, declaring internet access a fundamental human right. They call on social workers to take action to alleviate digital exclusion.

Pérez-Escolar and Canet (2023) present research results on vulnerable people and digital inclusion. They state that the target group most affected by digital exclusion is the elderly and people with disabilities, and that there are differences between rural and urban areas and between the poor and the rich. They also mention the lack of studies on some vulnerable groups (e.g., refugees, unemployed, single parents) and emphasise that digital inclusion projects are essential for the social inclusion of vulnerable people. Still, the digital divide remains a significant obstacle to this process. Similarly, Bucelli and McKnight (2022) state that digital inclusion facilitates access to services that positively impact employment, health, and housing. On the other hand, exclusion can be a source of economic and social inequalities.

According to a study by PAQ Research, up to 17% of adults in the Czech Republic suffer from digital exclusion. This means they do not have a stable internet connection or do not use the internet. 16% are at risk of digital exclusion. The most common problem areas include online dealings with authorities. Moreover, the population at risk of exclusion is regionally uneven – it primarily affects the Ústí nad Labem, Karlovy Vary, and South Bohemian regions (Šimsa et al., 2024).

Doseděl (2024) also states that despite the increasing availability of technology and the internet, part of the population in the Czech Republic remains digitally excluded, i.e., they do not have the opportunity to use digital services. There is another target group of digitally disadvantaged people (although they have the chance to connect, they do not use the services).

The Study on the Availability of the Internet and Information Communication Technologies in Asylum Homes was prepared for the Ministry of Labour and Social Affairs for the period 2015–2025. According to its findings, asylum homes are connected to the internet, which is available for most users. In 76% of cases, the internet is available to clients on a computer in a separate room. On the other hand, some clients stated that the conditions for using the internet (technical and spatial) are not optimal. In 47% of cases, the internet was available on discarded computers. Furthermore, most respondents (80%) stated they tried to increase digital literacy among their clients through occasional activities, requested interventions, etc. (Ministry of Labour and Social Affairs, 2018).

MATERIALS AND METHODS

A qualitative probe was conducted through semi-structured interviews with selected social workers to identify current topics related to digitalisation (concerns, expected risks, or examples of inspiring practice). They work in social services or organisations working with users at risk of digital exclusion. The aim was to gain insight into specific experiences from practice that reflect everyday reality and broader systemic challenges associated with digitalising public administration and services.

Ten interviews were conducted (four with male and six with female social workers), each lasting approximately 30 minutes. The length of experience in individual positions ranged from 2 years (the shortest length of experience) to 20 years (the longest length of experience), with the age of the communication partners ranging from 25 to 54 years. Due to the emphasis on maintaining the anonymity of the respondents, the text does not provide specific names of organisations or the geographical location of data collection. However, it can generally be characterised that in two cases these were workers performing the function of social curator, two interviews were conducted in a home with a special regime, three interviews took place within asylums, and three interviews took place in the social rehabilitation service.

The interviews were conducted based on a pre-prepared framework of questions, which was structured into three thematic areas, i.e., examples of inspiring practice – support in the field of digital literacy and digital inclusion, technical and organisational barriers, systemic challenges, and concerns associated with the ongoing digitalisation.

The open-ended questions allowed respondents to share their experiences and attitudes freely. The advantage of this was the possibility to record specific situations from practice and the subjective views of social workers (selected communication clients) on digitalisation as a social phenomenon and its impacts on the target group of services.

The data obtained were analysed using thematic analysis, which included several follow-up steps. First, all interviews were transcribed and anonymised. In the first phase of familiarising myself with the data, I repeatedly read individual transcripts and took notes on potentially significant points. Subsequently, open coding was carried out, when individual text sections were labelled with brief codes that captured their content. Coding was carried out manually, capturing explicit themes and more subtle nuances of meaning. Related patterns were identified and grouped into broader thematic areas based on the codes created. The resulting themes were continuously revised in the context of the original data. The validity of interpretations is increased by data triangulation (representatives of different types of services, with varying lengths of experience, length of practice, and at various ages, were approached). The reliability of the analysis was supported by repeated browsing and revision of data and codes in several phases of analysis.

During the analysis, we were aware of the possible limitations associated with our own involvement in the research, which could have influenced the interpretation of the data. Therefore, the data were read repeatedly with a time interval of several days to minimise first impressions or biases.

When presenting the results, individual categories are illustrated with authentic quotes from communication partners, which support the transparency of interpretations and allow the reader to follow the connection between the data and analytical conclusions.

From an ethical perspective, the research was conducted in accordance with the principles of confidentiality, voluntariness, and informed consent. All participants were informed of the purpose of the study and were guaranteed the anonymity of their statements and the organisations in which they work.

Examples of inspiring practice

a) Digital inclusion – a space to solve things on the internet

Communication partners stated that they actively provide their clients with access to digital technologies through various forms of technical support – for example, in the form of internet corners, connection to a Wi-Fi network, or by enabling the use of work computer equipment. This space serves clients to ensure a range of practical matters. The most frequently mentioned ones included, for example, searching for job offers on the internet, sending CVs to potential employers, submit-

ting tax returns, and an overview of the income and expenses of self-employed persons for the Czech Social Security Administration. The possibility of using the internet for regular personal communication, including contact via social networks, was also mentioned.

"We have one computer set aside here that clients can use. And there's a lot of interest in it, because even though they have a phone, they don't pay for data, which is expensive for them. So they come here, do what they need, and leave."

"They use the internet here quite often, it's simply convenient for them, for example, in the winter months they come here to warm up, chat, have tea or soup, and do whatever they need to do online. Because otherwise they wouldn't have many other opportunities."

The statements of the communication partners also showed that, if necessary, they are ready to provide their clients with individual assistance and support in handling specific matters related to digital technologies or administrative tasks in the online environment. This assistance is offered based on the client's current needs – spontaneously or at their request. It was said that this is part of everyday practice, reflecting clients' varying degrees of digital literacy and their ability to navigate online services independently. Clients often actively use this offer, especially for more complex tasks, such as electronically submitting forms, searching for reliable information, or filling out online applications.

"When someone doesn't know how to do it, we, of course, try to help them. Sometimes I'm not surprised that people can't do it, because in many cases I'm also fumbling and have to find out first, or call first and then we'll send it."

"It's good for those clients that they're used to coming to us when something doesn't work for them, when they don't understand something. So I'm counting on the fact that when the super dose is needed and it's administered over the internet, those people will simply come, if they can't deal with it at the office, and we'll help them with it here. They just know where to go."

b) Digital literacy

Some of the contacted communication partners reflected on the need for systematic education and development of digital literacy among their clients. As part of the social services provided, they are therefore considering implementing educational activities focused on the basics of working with digital technologies, the principles of safe behaviour in the online environment, and orientation in digital services. They hope these activities will primarily strengthen awareness and increase clients' trust in digitalisation's benefits and potential in everyday life.

At the same time, they expressed awareness of the risks and difficulties that are naturally associated with digitalisation – whether from a technical, ethical, or social perspective. However, they also pointed out the danger of a one-sided negative narrative that can prevail in the media and public space. In their opinion, there is a risk that such a one-sided portrayal of digital transformation can lead to the creation of a so-called self-fulfilling prophecy, where clients approach digital technologies with distrust, fear, or resistance from the very beginning, which can further complicate their involvement in digitally mediated services. In this context, some communication partners noted that digitalisation is a long-term and irreversible process that is likely to continue. Therefore, it must be accompanied by informed, supportive, and inclusive practice.

"We are considering some training. We would also like to motivate the clients a little bit positively. I myself see a lot of risks and problems associated with digitalisation. Still, on the other hand, it is probably simply the goal where our society is heading, and it is not a question of whether it will happen, but when and how it will happen. If our clients are endlessly told that digitalisation equals problems and exclusion, they will take it that way and be more excluded."

"We want to somehow work on the digital literacy of clients, maybe prepare them for something in advance, because some of them don't know anything at all, but some of them sometimes ask what it's all about. They hear something somewhere or someone tells them something, and then they're scared, because, for example, one client came and was quite scared that he wouldn't get anything anymore, that everything would be more complicated."

Concerns and expected risks

The communication partners mentioned some concerns and risks arising from the ever-expanding digitalisation of state administration and the public sector in general. In the context of working with people at risk of social exclusion, they identified specific topics that can represent a significant barrier to access to services and full participation in social life. The most frequently mentioned areas included the following:

a) System unpreparedness and lack of information

The communication partners expressed concerns about whether and how they themselves would be prepared for increasing digitalisation. In essence, they mentioned their previous experience, which consisted of the fact that, for example, they only learn about changes in the system, submission of applications and forms when the situation occurs (unless it is a significant change that is, for example, presented in advance in the media). In such a situation, they literally "seek information wherever they can" because they often encounter ambiguous information directly from the organisation/office or receive different information from the same organisation represented in various districts/regions.

The statements of communication partners expressed concerns about whether – and possibly how well – they would be prepared for the ever-accelerating digitalisation. They often mentioned the experience of learning about changes in the system only when a specific situation arose. Unless a fundamental shift is heavily publicised, information often comes to them late or not at all. In such cases, they "find information wherever they can" because they have nothing to rely on.

They also mentioned encountering ambiguous or contradictory information from the authorities or organisations. Different branches of the same institution in various districts or regions sometimes provide different interpretations or instructions. This fragmentation makes it difficult for them to navigate themselves and reliably help clients, who often get even more lost in the system.

"I'm afraid that when the digitalisation of applications to the authorities comes, that super dose, that, as always, no one will tell us anything in advance, they won't prepare us. There won't be any clear information available, and we will chase information wherever we can."

"I often only find out about the change from the client. I help him fill out the form. He goes to the office for a long time with it, and suddenly, he comes back to me saying there is a change and that something else needs to be documented or filled out. And I'm afraid that it will be like this with digitalisation. That we won't know anything in advance."

"We had some training, but the trainer didn't know much about super doses either. She told us some basics, but she couldn't respond to or answer practical questions."

b) Systemically, the authorities will be relieved, but the work without increased support will be transferred to social services

Communication partners expressed concerns regarding the planned introduction of the so-called super benefit. While its digitalisation may relieve the Czech Labour Offices, it was reported that some administrative and technical support, especially in filling out and submitting applications, would likely be transferred to social services. This mainly concerned the additional burden on social service workers, whose capacities are already limited. According to the communication partners, it is also unrealistic to expect this agenda to increase staff capacities or any other form of strengthening of services.

In this context, the lack of a conceptual framework for the entire digitalisation process was often mentioned. From a practical perspective, according to communication partners, the change is not systemic, and there is a lack of connection between the digitalisation of public administration and adequate financial and personnel support for services that work with clients.

"The work will be transferred to us. The office will be relieved, but it will burden us. There will be more work and more administration, which the offices should handle themselves. But we certainly cannot expect any personnel or financial reinforcement of the services."

"If it were done at least in a thoughtful way, the services where these people can go would be temporarily strengthened. But when they lose support, we cannot solve

everything with our capacity. I am curious about that."

c) *Error rate in submitted applications*

The communication partners we spoke to shared their experiences with the fact that applications submitted by clients online often contain errors or are missing the required attachments. As a result, applicants are subsequently invited to visit the office in person, complicating the process rather than simplifying it. Moreover, this procedure often causes nervousness and frustration among clients – not only because of repeated contact with the authorities, but also because of the time delay between submitting the application, receiving the invitation for a personal meeting, and the actual settlement of the matter.

"People often make mistakes there, so after a while they'll still be asked to appear in person at the office."

"You're just so angry about it because it takes effort to file and process it online, then you wait and think it's somehow in the process and that maybe the money will come. But then a letter comes asking you to come to the office, saying something is missing."

d) *Technical complications with the system*

In some cases, communication partners also pointed out technical problems associated with the electronic submission of applications. They mentioned specific situations where inserting a required attachment into the system was impossible, even though it met the prescribed format and size. These complications were identified as technical errors on the part of the system, not the user. In practice, this meant that the employee or client had to look for an alternative submission method, e.g., physically delivering the document to the relevant office, sending it by e-mail, or submitting a new application.

"We have encountered cases where the required attachment could not be attached to the system; there was some technical problem, so it had to be handled in person anyway."

"We had a client who wanted to submit her application online, but the system wouldn't let her attach a scan of her receipt. We tried it from the service's computer, but the result was the same. In the end, we had to sort it out in person at the office."

e) *Missing technical equipment*

Some communication partners pointed out that although they provide their users access to a computer with an internet connection, using some services, portals or applications is tied to two-step verification. This usually requires ownership of a mobile phone, bank identity, or other forms of digital verification. This is where the problem often arises; clients can use the available technical background of the service, but if they do not have a smartphone or access to the necessary verification tools, completing the process is significantly complicated and, in some cases, practically impossible. This obstacle can make it impossible to apply, access electronic communication with authorities, or handle other important matters.

"*What can be done without two-factor authentication is still quite OK. But where access needs to be verified, for example via phone, that's a problem. Because not all of these people have a smartphone. And we're not just talking about homeless people or the socially excluded. It can also be a problem for a single mother or other target groups who don't have the money for it."*

f) *Low trust in digitalisation*

Communication partners often pointed out the low trust of clients in the digitalisation process. In their experience, many clients do not trust new systems and changes, often because they do not have enough information, or this information is incomplete or distorted. Trust is also weakened by previous negative experiences and cases monitored by the media, which spread quickly among clients, especially if they are presented as a problem. On the other hand, positive news that a particular system is already working after initial difficulties usually does not reach them. They have less media interest, and no one often mentions them in everyday contact. The result is the belief that digitalisation does not work and cannot work.

"One client said, 'They've come up with something that won't work.' And when I asked him if he'd ever tried it, he said no, but that he'd heard it caused people problems."

On the other hand, the communication partner also mentioned: *"As soon as there is a case or a system failure somewhere, people know about it immediately and spread it among themselves. But when it is fixed and it works, no one cares anymore. No one tells the clients anymore, so they are left with the idea that it simply does not work."*

DISCUSSION

The qualitative survey findings confirm that digitalising public services can represent another dimension of social exclusion for social work clients. As Sanders and Scanlon (2021) point out, the digital divide is not just a technical problem, but a fundamental issue of social justice: insufficient access to digital technologies limits the ability of disadvantaged people to fully participate in modern life (access to a range of information and services that are available mainly in the online environment, such as key information, education, healthcare, employment in the labour market or drawing social benefits), i.e., rights that are considered fundamental today.

The interviews conducted show that social service clients are among these vulnerable groups. The digitalisation of agendas without adequate support does not bring the proclaimed benefits for them, but, on the contrary, threatens to deepen their social exclusion. In practice, this is illustrated by the transfer of the digital agenda to social workers: the interviewed communication partners stated that they increasingly function (or expect to function increasingly more often) as intermediaries between e-government and clients, helping to fill out online forms, ensuring electronic communication with authorities, or verifying the identity of clients when logging into systems. This trend corresponds to the broader discussion on digital exclusion, where according to Ragnedda et al. (2022), socially disadvantaged people often also face digital disadvantage, and both types of exclusion can reinforce each other.

The role of social workers as informal "digital guides" remains marginally reflected in professional (primarily Czech) literature, although it appears to be key to overcoming the digital divide in practice. However, there are already the first signs of a change in this attitude, e.g., PAQ Research, in its analysis of digital exclusion in the Czech Republic, recommends strengthening the capacities of social, non-governmental and local services that help digitally excluded and vulnerable people to deal with online issues, such as communication with authorities, doctors or information search (Šimsa et al., 2024). Similarly, Mesa (2023), in a study from Italy, points out the need to create support mechanisms for people with limited digital competence at risk of disadvantage due to digital transformation. Without targeted support, these people are at risk of technological exclusion and deepening their distrust of institutions and public administration.

The technical and competence barriers to digitalisation that communication partners point out correspond closely to previous findings on the nature of the digital divide. Many social services clients do not have the basic technical prerequisites for online functioning. They lack a stable internet connection or a suitable device (computer, smartphone). This so-called first level of the digital divide (physical access to technologies) is still, according to PAQ Research, a reality for a significant part of the population. According to current data, up to 17% of adults in the Czech Republic remain digitally excluded – they do not use digital technologies and do not have a reliable internet connection – and another 16% are at risk of digital exclusion. In addition, almost half of the population (45%) is exposed to certain digital risks or limitations due to insufficient skills. These include inadequate competences in digital security, low e-skills for communicating with authorities, or inefficient use of online services (Šimsa et al., 2024).

In addition to tangible barriers such as the lack of technology or connectivity, the survey revealed less visible but equally important barriers, such as subjective distrust and the difficulty of some digital procedures. Many social workers mentioned low client trust in digital services. Clients doubt that online handling of official matters is reliable or safe, and often prefer personal contact. This distrust may stem from low digital literacy and general scepticism towards institutions. In the professional literature, the issue of trust has not yet come to the fore as often as the issue of access or skills, but it cannot be ignored. The aforementioned Italian study by Mesa (2023)

found that more than a third of citizens fear the digitalisation of public services will worsen the situation.

The interviewed social workers (communication partners) described mandatory two-step authentication when logging into online services as particularly problematic. Many clients cannot independently use authorisation SMS codes or mobile applications to verify their identity, e.g., they do not have a smartphone, do not understand the procedure, or it is difficult for them. This seemingly marginal technical element turns out to be a significant barrier in practice. Two-step verification, or client portals, are necessary for online banking. If the client cannot handle it, these essential services remain effectively inaccessible to them. The problem of two-step verification has not yet been significantly emphasised in the professional literature. Most studies focus on more general issues of access and skills. However, the results indicate that even micro-barriers can have macro-consequences for social exclusion. Requiring advanced security features without alternative support channels can unintentionally exclude groups of the population with lower digital competence.

The digitalisation of public administration and services represents one of the key trends of current social development, which brings several benefits in efficiency, accessibility, and transparency. Several foreign studies address this issue, such as Liu et al. (2025), who focus on digital inclusion in services for vulnerable target groups. However, its downside cannot be overlooked, i.e., the risk that the modernisation process will become new gates of social exclusion for those who cannot enter the digital space on an equal basis.

A qualitative survey among social workers shows that digital exclusion is not a hypothetical threat, but an everyday reality for their clients. These people – often already at risk of social exclusion – face new obstacles: insufficient technical equipment, low digital literacy, lack of trust in the system's function, and a dysfunctional and uncoordinated approach of institutions to digitalisation changes. It turns out that it is "micro-barriers", such as two-factor authentication or unclear forms, that can have "macro-impacts" in the form of the impossibility of submitting an application, receiving support, or communicating with the authorities.

In practice, social workers are taking on an entirely new role as digital guides. They provide clients with technical support, explain what new digital requirements mean, help fill out online applications, search for information, and often make up for the lack of information from institutions. However, this role is not systematically anchored or supported.

The consequences are severe. Instead of increasing the availability of services, digitalisation can contribute to further disadvantaging those already on the margins of society. It is not just about technical skills. Trust, understanding of processes, and the opportunity to share concerns with someone who understands the situation also play an essential role. Without active guidance and support, digitalisation risks building a new gap instead of a bridge to greater equality.

The research results lead to several recommendations. First, it is necessary to systematically strengthen the digital literacy of target groups through accessible, understandable, and tailor-made educational activities, such as creating simple and practically oriented workshops conducted in the social services environment, focussing on basic tasks (such as submitting an online application, working with e-mail, verifying identity, etc.), involving so-called peer tutors in teaching – people from target groups who already have some digital experience and can pass on their skills to others in an accessible way, etc.

Secondly, it is necessary to support and formally recognise the role of social workers as key actors in the digital inclusion process, e.g., through methodological materials, training, and direct financial support for the services that carry out this work. This recognition should also include the introduction (or expansion) of digital inclusion modules into lifelong learning and accredited courses for social workers, financial support for the position of "digital coordinator" within social services (either as an independent worker or as an extension of an existing job), and the possibility of consultations with an IT specialist within multidisciplinary teams.

Third, digitalisation measures should be prepared in collaboration with field workers to better reflect clients' real needs and every-

day obstacles in practice, i.e., from technical issues to user uncertainty and concerns.

Furthermore, alternative solutions should be considered for groups of people who cannot use the digital environment, e.g., maintaining "analogue" options for contact with authorities, targeted assistance with key life events (benefit applications, changes of permanent residence, health documentation), or creating digital support points in community centres, shelters, and similar services.

CONCLUSION

Digitalising public services is a technical, social, and ethical challenge. To be truly inclusive, appropriate strategies in social work, education, and politics must accompany it. And this is where the space opens up for social workers, who can bridge the technological world and the reality of people still finding their place in it. However, to fulfil this role effectively, they need the will, expertise, appropriate recognition, and support from the system.

Ethical aspects and conflict of interest
The author has no conflict of interest to declare.

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