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Use of information systems in social work – challenges and an agenda for future research

Användning av informationssystem i socialt arbete - utmaningar och en agenda för framtida forskning

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ABSTRACT

In the age of digitalisation social work is transforming. With the increased use of information systems, social workers are meeting new professional challenges. In this paper, we report findings covering a nine-year longitudinal study on critical issues in the use of a Case Management System in a Swedish social work agency. The study includes a stakeholder-based evaluation, interviews and document analysis. Comparing the evaluation findings with the literature helped us identify six areas in need of intensified research: (i) Usability and interface design; (ii) Mismatch between social conceptualisation and system conceptualisation of the case; (iii) Skills and training for information systems use; (iv) Statistical production for accountability and quality assurance; (v) Terminology for interpersonal understanding; (vi) IT Governance. As can be seen from the areas above, this kind of research depends on professional knowledge from the social work field – but also from the field of information systems. Hence, we suggest deeper collaboration between the two areas of knowledge in order to scrutinize the complexity of social work information systems. Clearly, the intersection of social work and information systems is a neglected research area, and we attempt to contribute by providing guidance for intensified research and practical knowledge generation.

SAMMANFATTNING

I en tid av digitalisering och ökad användning av informationssystem i socialtjänsten följer också professionella utmaningar. I den här studien har vi identifierat kritiska problem vid användningen av ett verksamhetssystem för individ- och familjeomsorg i en svensk kommun. Studien bygger på en intressentbaserad utvärdering, intervjuer samt dokumentanalys där vi följt användningen av informationssystemet under en period av nio år. Genom att jämföra utvärderingsresultaten med forskningen om användning av informationssystem i socialt arbete har vi identifierat sex områden för fördjupad forskning: i) Användbarhet och gränssnittsdesign ii) Diskrepanser mellan den sociala konceptualisering och konceptualiseringen i informationssystemet iii) Färdigheter och utbildning för informationssystemanvändning iv) Statistik och kvalitetssäkring v) Terminologi för kommunikation samt vi) Systemförvaltning. Av ovanstående områden framgår att detta

KEYWORDS

Social work information systems; information systems evaluation; challenges; research agenda

NYCKELORD

Socialtjänstens informationssystem; utvärdering av informationssystem; utmaningar vid digitalisering; forskningsagenda

kunskapsområde bygger på kunskaper både från socialt arbete och på kunskaper om informationssystem (informatik). Därför föreslår vi ett djupare samarbete mellan de två kunskapsfälten för att undersöka och utveckla kunskap om informationssystemen för socialt arbete. Skärningsområdet mellan socialt arbete och informationssystem är ett komplext och delvis försummat forskningsområde. Studien ger bidrag till utvecklingen av en framtida forskningsagenda och till praktisk kunskapsutveckling inom området.

1. Introduction

Information systems are vital parts of conducting social work where the systems are embedded in the social work practice. Communication and interaction between professionals of social work are increasingly being done through information systems, making these systems parts of action and decision-making in daily social work practice. Different social work professionals, as frontline social workers, managers, service planners, policy-makers, IT-staff and different contractors, communicate and collaborate on the basis of the information in social work information systems in order to get the work done.

When digital information systems were introduced into the public sector, government agencies were quickly supposed to change towards the New Public Management (NPM) model and public values were redefined and more oriented towards client centrality and efficiency (Grönlund, 2001). The NPM model has since the 1980s been an approach that builds on the private sector management models in order to make the public sector more 'businesslike' and many scholars view the introduction of information systems in the public sector as a direct response to the NPM reform (Persson & Goldkuhl, 2010). This is not unproblematic since government organisations do not operate in the same way as private organisations and core values differ (Heeks, 2005). Burton and van den Broek (2009), in their study on social workers in Australia, showed how NPM and the implementation of new technologies have intensified tensions between professional and bureaucratic accountabilities for social workers.

Information systems manage formalised information and communication about clients, cases, and decisions in the social work practice. Different kinds of information systems have been deployed and implemented in social work and human service organisations, such as online counselling systems, call centres, Internet-based applications, case management systems, tools for risk assessment and child abuse (Ley & Seelmeyer, 2008). However, research is indicating that in many instances, the information systems undermine the social work practice (Gillingham, 2013, 2015). For example, the introduction of information systems has shifted professional values and identities from social accountabilities to informational and bureaucratic accountabilities where a disproportional amount of time is spent in front of the computer instead of time spent with clients.

There is a growing body of research about the use and role of information systems in social work practice, and social work information systems are gaining attention as an important field of study (Carrilio, 2008; Gillingham, 2011, 2013; Parker-Oliver & Demiris, 2006). This area is, however, still not yet well researched (Parker-Oliver & Demiris, 2006). The aim of this paper is therefore to contribute to the emerging social work information systems research agenda.

Based on an extensive stakeholder-based evaluation of an information system in a Swedish social work agency, we have identified a wide range of problems and critical issues concerning the use and management of the studied case management system. In this case study (Oates, 2005), our purpose is to compare empirically grounded challenges in information system use in a Swedish social work agency with identified challenges in the literature on the use of social work information systems.

We pose the following research questions:

- What are the challenges in the use of a social work information system in a Swedish social work agency according to the stakeholders?
- How do the empirically grounded challenges relate to the literature on the use of social work information systems?
- What are the important areas for further study in the evolving social work information systems research agenda?

We believe that interdisciplinary research of social work and information systems is a fruitful way forward for studying social work information systems. As researchers, coming from the information systems discipline, we hope that we can add to this important field of research moving both practice and theory forward.

The next section clarifies our perspective on information systems, and thereafter we make a brief overview of research on social work information systems. After presenting our research approach, we present the results from the evaluation study and analyse four different stakeholders' perceived challenges in the use of the information systems. We analyse the results of the evaluation in relation to the literature in the field and suggest areas for research contributing to the evolving social work information systems research agenda.

1.1. Information systems

As researchers coming from the information systems research field (Hirschheim & Klein, 2012), we adopt a sociotechnical view on information systems. Central bodies of knowledge researched in the information systems field are the information systems artefact, information systems development and design, information systems and IT management and governance, and also the representation of 'the real world' in the information system. This body of knowledge makes information systems research suitable for being a reference discipline to other fields interested in information system design and use in organisations (Baskerville & Myers, 2002).

Information systems are understood as complex contextually bound systems that are embedded (Orlikowski & Iacono, 2001) in the practice, coordinating and regulating actions of work. Understanding information systems as sociotechnical designs means that information systems should improve working life with technical change where rights and needs of the employees must be given high priority. Furthermore, professionals should be democratically involved in the design (Mumford, 2006). This perspective is important considering that work practice goals, policies and other structures become ingrained in the information system artefact during design (Goldkuhl, 2016). A traditional definition of an information system is:

a system which assembles, stores, processes and delivers information relevant to an organisation (or to society), in such a way that the information is accessible and useful to those who wish to use it, including managers, staff, clients and citizens. (Fitzgerald, Russo, & Stolterman, 2002, p. 4)

Information systems as artefacts can be conceptualised as consisting of three subsystems: a technology artefact, an information artefact and a social artefact (Lee, Thomas, & Baskerville, 2015). Following Lee et al. (2015), the technology artefact is a technical tool that is designed to solve a problem, achieve a goal or serve a purpose defined and experienced by a person. The information artefact is the instantiation of a selected amount of data for a particular purpose, where the information represents some kind of meaning relating to semantic and syntactic rules. The third subsystem, the social artefact, incorporates the relationships and interactions between individuals at the workplace through which an individual attempts to solve his/her problems, achieve a goal or serve a particular purpose. When the three sub-artefacts are brought together and interact, they come to form the information system. Consequently, the information system relies on technology but is a wider concept than the computerised system, taking into account its communicative and executive function in the social human activity system.

1.2. Research on social work information systems

There have been efforts to increase the research in the intersection of social work and information systems, and areas for research attention have been suggested in the literature. Interestingly, much of the social work literature on the benefits and drawbacks with information technology were written in the 1980s and early 1990s, a time when computers were scarcely available (Rafferty & Steyaert, 2009).

Already, Sapey (1997) worried that if social workers are not sufficiently involved in new ways of applying technology, they will fail to control the way in which computers affect the clients and the very nature of social work itself. Likewise, Rafferty (1997) points out that we need to further explore 'the impact of the embedding of the use of computers within social work organizations for management, practitioner and service user support' (p. 961) in order to develop systems that are better designed to support all stakeholders. Rafferty gives a good overview of the recognition of an information age in social work from the beginning of the 1980s. She points out two important areas for research: the first concerns the impact of the embeddedness of information technology for management, practitioner and service user. The second area concerns the role of technology in the education of social workers.

Parker-Oliver and Demiris (2006) propose the term Social Work Informatics for the use of technology in social work practice. They define social work informatics as 'a combination of computer science, information science, and social work designed to assist in the management and processing of data, information, and knowledge to support social work practice' (Parker-Oliver & Demiris, 2006, p. 129). They also suggest an outline for further study on the base of current controversies related to technology within social work: inequality of access to technological resources, ethical issues in the use of technology in practice, legal and licensing concerns, depersonalisation, and technological difficulties. Parton (2008) examines how the growing significance of information technologies and information in social work practice might transform the form of knowledge in the field. Also, Ley and Seelmeyer (2008) suggest a research program 'technology in action' for intensified research tackling the question on how technologies are embodied and embedded into social work professional action. Rafferty and Steyaert (2009) identified four key themes for researching 'social work in the digital age': social work information systems supporting practice, the learning professional and independent living, and the information society: social inclusion, social exclusion and the digital divide.

In recent years, Gillingham (2011, 2013, 2017) has researched the use of systems in human service organisations concluding that the systems do not meet the needs of stakeholders. Gillingham suggests using interpretive, participatory and ethnographic approaches, used in the information systems field, to guide future design and decision-making on information systems, enhancing the abilities of the professional practitioners. Insights on challenges with the increased use of information systems in social work have been reported from different counties and practice settings, which we further discuss in Section 4.

2. The research

Studies on information systems in social work are usually conducted from a single stakeholder perspective, which is the social worker (e.g. Ince & Griffiths, 2011; Pithouse, Hall, Peckover, & White, 2009; Wastell et al., 2011). Our research is a qualitative study based on a stakeholder evaluation (Guba & Lincoln, 1989) where we link the evaluation results to the social work research literature reporting on use and management of information systems in social work practice. A multi-stakeholder approach contributes to developing an overall view of what different stakeholders are doing with the system and provides a multifaceted picture of the information system in practice, useful for understanding complexities and challenges. Unfolding and contrasting different stakeholders' activities and concerns also illustrate how the system is embedded in various agency processes that span unit borders and organisational levels.

Guba and Lincoln's (1989) stakeholder model of evaluation is theoretically underpinning the interpretive information systems evaluation approach that has been suggested in the information systems field as vital for learning and generating practical implications (Jones & Hughes, 2001; Lagsten, 2011; Lagsten & Goldkuhl, 2008; Symons & Walsham, 1988; Walsham, 1999). Principles of stakeholder evaluation can be summarised as follows: elicitation and articulation of stakeholder concerns; participative process; context-dependent criteria; understanding and learning.

The research has been conducted in four steps: (1) an extensive evaluation of the system in 2007, (2) document analysis of the problem inventory underlying a new requirement specification in 2012, (3) re-visits to the stakeholders in 2016 in order to find out which challenges still remain and (4) comparison of empirical findings with the research literature in order to identify research themes important in a future social work information systems research agenda.

In 2007, the first author carried out an extensive evaluation. The evaluated information system is a Case Management System (Ley & Seelmeyer, 2008) providing support for most of the workflow of social services such as case recording, evaluation, monitoring and decision-making. The system was developed, delivered and supported by a large Swedish IT vendor. At this time, the same information system was in use by approximately 150 municipalities in Sweden (out of 290). In our researched social work agency, the system was used by 350 social workers in daily practice. Case handling included problem solving together with clients, writing field notes, documenting investigations, making decisions on measures, assessing measures and making decisions on placements in institutions and residential care. Social workers estimated that they spent 40–60% of their working hours using the system. The agency had started using this system in 1999, and it is still in use today in 2017.

The purpose of the evaluation in 2007 was to evaluate the system from different stakeholders' perspectives, and the evaluation object was defined as '[t]he system as a tool for case handling in the social work practice' (Lagsten, 2007). The main question from the project originator was if it was about time to terminate the information system or if the current system satisfied organisational needs.

The evaluation began with an inventory of all stakeholders where we defined stakeholders as professional groups that influence or are influenced by the system. Four stakeholders were identified as primary and were selected for participation: social workers (five different subgroups), managers, IT support and IT managers. While being aware that service users are an important stakeholder group, we have deliberately taken an organisational perspective. Participation was based on how crucial their interest was in the system and their ability to make information available that could resolve the question if the system satisfied the organisational needs.

In order to understand the work practice supported by the system, the first author participated in regular meetings, took part in the information system education and studied central documents concerning the system.

Altogether, about 70 individuals participated in this first main evaluation process. The evaluation was carried out through 16 dialogue seminars (Lagsten, 2011) where each group (3–7 individuals representing the wider stakeholder group) had two seminars. Each seminar lasted around two hours. During the seminars, participants' concerns for the system were identified and elaborated based on four specific questions: What do you do while using the system? What problems do you perceive? What good does the system do for you? What are the goals you try to achieve? Each seminar was documented in a working report articulating stakeholders concerns arranged according to the four categories: activities, problems, strengths and goals. In between the first and second seminar, every participant received the report by e-mail, and during the second seminar, the group made refinements and validated the formulation of their identified concerns in the report. In this study, we analyse the defined problems from these reports (Tables 1–4) representing challenges for the different stakeholders. The detailed procedure of the evaluation has been described in an earlier study focusing on methodology and perspective for stakeholder-based evaluation (Lagsten, 2011).

In 2012, the agency evaluated the system again by carrying out a system requirements process followed by a public tendering. The same vendor as before won the procurement process and the agency ended up with the same system already in place – albeit with new requirements on it. To find out if there has been any progress with the system and to find out which, if any, of the stated problems had been rectified, we conducted a document analysis of the requirement specification in 2012. In 2016, we revisited the social work agency and made complementary interviews with some of the stakeholders from the first study. Four semi-formal interviews were conducted with five persons who participated in the 2007 evaluation. Before the interviews, we sent the lists of problems from 2007 to the informants and later during our interviews we went through the lists to see which problems still remained and/or if new problems had arisen. A comparison of the challenges from 2007, 2012 and 2016 is discussed at the end of the results section (a full account of this comparison is found in a supplementary data file).

3. Evaluation results on system use and challenges

In this section, we present the evaluation results for each stakeholder group concerning their perceived challenges with the system and end with a discussion on how the challenges have evolved over time.

3.1. Social workers

The social workers participating in the evaluation were from five different units: investigation team, emergency service, foster care, family law and financial support. Their work included personal meetings, counselling, investigations and dialogue with contractors (i.e. foster families, contact persons, treatment units). The workers interacted with the system to document, retrieve and communicate information in client cases. Documentation concerned, e.g. names, dates, meetings, activities, decisions, interventions and assessments. To make good decisions, information from case records was retrieved from the system database. There are routines for cases and how to record them in the system, although those routines were sometimes tacit. They cooperated in consultation meetings and by adding and using case information in the system, but the access to case documentation is carefully regulated to assure legal security and privacy for clients.

A central problem was that the social workers perceived the system to be time consuming at the expense of personal interaction with clients. There was a large number of usability problems due to poor screen design, e.g. misleading names on command buttons, inconsistent functionality and design for save and quit operations, and overload of differently designed menu bars. [Table 1](#) shows the challenges recognised by social workers.

Table 1. Main challenges recognised by social workers.

Social workers' challenges

- Time and energy consuming.
- Takes time to learn.
- Screen design brings on a cognitive workload.
- Functions/buttons have unclear consequences.
- Poor workflow for standard cases.
- Functions are missing/incomplete.
- Poor word processing.
- Data can be saved on local discs.
- Incorrect information is saved.
- Unclear regulations for case contents.
- Accessibility problems (slow, kicked out, inaccessible).
- Maintenance routines not always understood.
- Inaccuracy, information not fully reliable.

Table 2. Main challenges recognised by managers.

Managers' challenges
<ul style="list-style-type: none"> • Too many clicks. • The system is cumbersome and inefficient. • Case recording takes longer time than before. • Poor overview of cases. • Poor statistical support. • Allows inaccurate data entry. • Disallows cooperation between some units. • Computer skills among staff differ. • Templates are missing. • Roles/access in the system hinders a practical workflow.

3.2. Managers

Managers work at a strategic level and supervise and evaluate the performance of the unit's staff members. They monitor case activities and offer consultancy, support and coaching to social workers in their unit. The managers are provided with statistical extracts from the system into a management information system for analytical purposes used for business evaluation and planning.

Interestingly, managers' opinions of challenges did not essentially differ from the workers. However, one problem they emphasised was that the support for statistical records was very poor, the statistics from the system were not perceived as reliable and parts of the centrally produced statistics were not useful. The managers had to use a complementary system as well as performing a lot of manual calculations in order to get the numbers they needed. Table 2 shows the challenges recognised by managers.

3.3. IT support

The IT support team gives phone support to workers if the user is stuck, and they make corrections if incorrect data have been entered or detected. They also provide handbooks and training. IT support monitors functionality in the system and performs system care, as well as work with the system vendor. The vendor delivers a new system version annually and service packs and corrections are delivered during the year. The IT support team performs tests of system deliverables before implementation. There is also a large amount of statistical production performed by the system so they run different statistical batches. Statistical reports, based on case records, are delivered to national and local bodies, e.g. Swedish social insurance agency and the city council. A pay-file is delivered daily to the bank transacting welfare payments.

One problem was that IT support had a high workload correcting case records. Another problem concerned was training; social workers did not attend the scheduled training. The low participation in training, according to IT support, was due to managers' lack of understanding of their responsibility for the system and their responsibility to ensure use skills among workers. Other problems were errors and bugs in new system versions and service packages. New versions went late into production due to the extensive testing. Table 3 shows the challenges recognised by IT support.

Table 3. Main challenges recognised by the IT support.

IT-support's challenges
<ul style="list-style-type: none"> • Errors in system deliverables from vendor. • The vendor has an undesirable business attitude. • Late implementation of new versions. • Many corrections in case. • Routines for education are not good enough. • Some functions are missing. • Meetings are too time consuming. • Unclear responsibilities for the system in the handling of cases.

Table 4. Main challenges recognised by IT managers.**IT managers' challenges**

- Unclear responsibilities between IT support and managers.
- Purchase of new system modules are based on insufficient investigation.
- Difficulties in implementing the approach that the system is part of the unit's practice.
- Difficult to judge if the agency provides the right system.
- The system demands too many resources in order to work.

3.4. IT managers

IT managers carry out long-term strategic planning and develop and sustain IT governance and maintenance routines for the system. IT managers give directives to the IT support team and coordinate activities and projects together with them. They are also responsible for the contract with the system vendor.

One concern for the IT managers was the unclear distribution of responsibilities between managers and IT support. They experienced that it was hard to implement a perspective where the social work practice regarded the system as its own, taking responsibility for making it work. Another difficulty was the question of how to evaluate the system, how to judge if the system was fulfilling the needs of the social work practice or not. Table 4 shows the challenges recognised by IT managers.

3.5. Follow-up on evaluation results

In sum, the identified challenges recognised by different stakeholders provide a rich picture of complexities of information system use in social work practice. Challenges originate from different sources such as poor usability design, lack of understanding of restrictions inherent in information technology as well as organisational issues concerning responsibilities and roles.

When we compared the challenges from 2007 with those experienced in 2012 and 2016 (this comparison is available in a supplementary data file), we found that although many of the technical challenges remained in 2012, they were mainly rectified by 2016. The remaining challenges mainly refer to the wider information system (roles, work practices and routines) as opposed to the technology artefact. The more embedded and intangible challenges are, the harder they are to resolve. According to our informants, there had been changes in attitudes where the managers and workers take more active responsibility for the system; however, they emphasised that they still have a long way to go before they see the system as an integral part of the work. One IT manager said that the procedure for eliciting new requirements in 2012 was unsatisfactory because it was the IT department on the municipality level that made most of the requirements without actively involving the users in the process: 'The divide between IT department and the practice has not narrowed since 2007. The users still think it is hard to influence the development of the system'. Informants from IT support similarly said that there is still a huge discrepancy between how the work practice and IT department perceive and talk about system-related issues. We believe that this is one reason why most of the technical problems have been solved but not the more complex work practice-related challenges. The IT people do not understand the practice enough while managers and workers do not have enough understanding of the technology artefact. It is in this intersection between IT experts and practice experts where more research is needed.

4. Analysing evaluation results in relation to the literature on social work information systems

In the following section, we analyse the results from the evaluation in relation to the literature on social work information systems. The evaluation results provide a rich picture of empirically grounded

concerns that identifies and contextualises critical challenges and areas urgent for further studies. We have identified six such urgent areas.

4.1. Usability and interface design

Poor user interface design (Nielsen, 1995) in social work information systems has been observed by many researchers; e.g. in the UK (Rafferty & Steyaert, 2009), the US (Carrilio, 2008) and in Australia (Burton & van den Broek, 2009; Gillingham, 2011). Research shows that problems in the daily system use such as data loss, inflexible formats for data entry and word processing, incomprehensible navigation and orientation, low error prevention, high number of clicks, etc., are a reality for many workers (Ince, 2010; Ince & Griffiths, 2011; Shaw et al., 2009). These observations match the remarkable amount of use problems identified in our evaluation. Many of these problems are due to poor design of the graphical user interfaces created by professional system developers. This unsatisfactory situation cannot be overlooked. Designing for usability (human–computer interaction) has been an issue in research and in education for system developers for some 30 years now (Topi et al., 2010). An important research question is why user interface designs in social work information systems is poor – is it due to poor system requirements in the development process or are there other reasons?

4.2. Mismatch between social and system conceptualisation of the case

In our evaluation, social workers witnessed trouble matching the actual case and the workflow in practice with the documentation and recording of the case in the system. The intrinsic logic and grammar of socially handling the case and the system-based handling and recording did not match. Part of this problem is connected to the interface design, whereas another part lies at a higher conceptual level and concerns the representation and workflow of the case in the system. Ince (2010) points at this conceptual mismatch as one of the most serious problems and connects it to the inordinate amount of time spent at the computer, sometimes as much as 80% (Gillingham, 2011; Parton, 2008). This is in line with our findings where the social workers spent between 40% and 80% of their working hours with the computer. Communication in the social setting differs from the system-based communication that today is daily practice (Parton, 2008; Pithouse et al., 2009). The system-based communication must be mastered by social workers; otherwise, there is a risk that the nature of social work is changed to fit parameters of technology decided by system designers (Rafferty, 1997; Sapey, 1997). Our findings indicate that users and their demands are neglected in the development and procurement process. Gillingham (2015) reports on an attempt to circumvent these problems based on participatory design, but found that deciding on what information should be included in the system was still a difficult task. One important question for research is to investigate what information and information models are represented in the systems. Is the system mainly supporting the narrative of the caretaker and the workflow for social workers, or is the information model mainly supporting managerial goals and accountability (Burton & van den Broek, 2009; Sapey, 1997)?

4.3. Skills and training for information systems use

In the evaluation, it became evident that some social workers did not have relevant training to use the system and workers accidentally inserted inaccurate data, or omitted data, exposing clients to security and privacy risks. When roles are changing in the information age, workers need to acquire skills relevant to these new demands (NASW, 2005) and be skilled in using computers (Räsänen, 2015). Professional workers are challenged to explore the possibilities and advantages that information technology offers (Parrott & Madoc-Jones, 2008; Tregeagle & Darcy, 2008).

It seems then that training organised at the agency has an important role in the development of skills. However, the evaluation showed considerable problems in organising this training where one

source of the problem was the unclear perception and distribution of responsibilities between IT support and managers. An interesting and fruitful line of research is proposed by Huuskonen and Vakkari (2015) who analyse the whole process of production and consumption of records and the recording and reading in the information system as part of the process of social workers' construction of a case. Their message is that the whole recording process should be taken into account when recording practices are developed. A question for further research is to investigate training practices in agencies. Usually there is training in system usage, but what does this training consist of? Is the system training perceived as a part of the recording process? Or is system use somewhat departed from case recording? Who is developing and conducting this training?

Relevant technology skills are needed, not only for system use but also for collaboration with IT professionals when setting system requirements that have the best interest for clients in mind (Parker-Oliver & Demiris, 2006; Rafferty, 1997; Rafferty & Steyaert, 2009).

4.4. Statistical production for accountability and quality assurance

Systems are used and cases are recorded differently, both within and between agencies (Huuskonen & Vakkari, 2015; Pithouse et al., 2009; Shaw et al., 2009) causing inadequacies in statistical material. Also inaccurate data entry makes statistical records unreliable. This raises a question about the quality of statistics on the aggregated level, used for quality assurance and planning. Shaw et al. (2009) made a large study on the aggregate statistical information from childcare systems where they found that the studied systems did not provide reliable aggregate information.

Managers and other users in our evaluation did not fully trust records they retrieved knowing that faults were entered. An interesting finding in our study is that social workers and managers actually talked about two different practices of social work – the caring practice and the 'statistical production practice'. Clearly, the information systems are serving several purposes such as case recording and production of aggregate information. This can lead to tensions between professional and bureaucratic accountabilities (Burton & van den Broek, 2009). The bureaucratisation of social work and the role of information systems in this process have had consequences for social work practice. It could be interesting to find out how large a part of the organisational work that is 'statistical production' and how the aggregate information are actually used.

4.5. Terminology for interpersonal understanding

A difficulty in performing the evaluation was the lack of a common vocabulary and terminology for addressing the use of the system. Different stakeholder groups had invented their own terminology for talking about activities and facilities in the system (functions, buttons, menu choices, procedures, etc.). The lack of a common vocabulary for addressing and discussing system issues hindered personal and interpersonal understanding and hence affected learning. This lack of linguistic unity is not only a problem within an agency, it has consequences for interagency exchange of experiences and lessons learned as well as for putting demand on IT support, IT management and vendors. This area is barely addressed in the literature on social work information systems even though Ince and Griffiths (2011) explain failures in the system development process and in requirements analyses with terminological misconceptions between social work professionals and IT professionals. An important part in developing the social work research agenda is thus to establish linguistic unity in order to strengthen possibilities for interpersonal understanding both in practice and research.

4.6. IT governance

The last area concerns IT governance of social work information systems where, to our knowledge, there is hardly any research covering this area. The goal of IT governance is to achieve and sustain a better alignment between work practice and IT (De Haes & Van Grembergen, 2009; Weill, 2004).

IT governance consists of structures, processes and mechanisms to ensure the effective use of IT on an organisational level. Governance structures for information systems in social work seem to be underdeveloped. For example, a survey from the Swedish Association of Local Authorities and Regions showed that a low proportion (10%) of Swedish municipalities had implemented an IT governance model (SALAR, 2009). We found that the procedures for governing the system could be improved, workers had difficulties in understanding the routines for maintenance and roles and responsibilities for IT support and management were not made clear. This area also covers the collaboration with the vendor. At the time of the first evaluation, the agency had poor influence on deliverables from the vendor and it seemed like they had to rely on the benevolence of the vendor to perform their commissions. Our follow-up interviews showed that the cooperation with the vendor had improved. This condition of course has a strong influence on the agency's possibility to tailor the information system according to their context and needs. A question for research is to find out which beneficial structures, processes and mechanisms that are used, or can be used, in the governance of social work information systems.

5. Contribution to a social work information systems research agenda

As can be seen from the proposed areas above, this kind of research depends on professional knowledge from the social work field – but also from the field of information systems. Hence, we suggest deeper collaboration between the two areas of knowledge in order to scrutinize the complexity of social work information systems.

In an extensive evaluation, from different stakeholders' perspectives, we contribute to an understanding on how the system is embedded in practice. The evaluation made evident complexities and challenges in information systems use that are intertwined with actions and roles of social work practice. Clearly the intersection of social work and information systems is a neglected research area. Comparing the empirically generated findings with the literature helped us to identify six areas where intensified research is needed:

- (1) Usability and interface design
- (2) Mismatch between social and system conceptualisation of the case
- (3) Skills and training for information systems use
- (4) Statistical production for accountability and quality assurance
- (5) Terminology for interpersonal understanding
- (6) IT Governance.

We have found that the rationale of the system, due to digitalisation, is hidden from social work professionals and therefore not open for debate and criticism. Information systems are embedded in activities of work and not explicit and overt. There is a lack of language and structures for describing social work information systems, which makes critical discussions for improvement more difficult. This situation is very much in opposition to what Rafferty, as a critical enthusiast, hoped for when she stated that

ICT and social informatics' knowledgeable students will make practitioners with the theory, values and skills to be involved in the development of ICT use in social welfare. This should lead to systems that are better designed to support all stakeholders. It would also ensure a professional body who are in a position to influence the debates around the information society and its impact on the marginalized and excluded of society. (Rafferty, 1997)

It seems we still have a way to go before we are there.

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