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The information practices of welfare workers

Conceptualising and modelling information bricolage

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Abstract

Purpose – The purpose of this paper is to explore the nature of information practices of welfare workers and how they fit into daily work of welfare work within a small community sector organisation in Victoria, Australia.

Design/methodology/approach – The study was constructivist (interpretivist) in its underpinning philosophy, drawing on both personal constructivist and social constructionist theories. The research methods used, with a sample of 14 welfare workers and two clients, were organisational ethnography and grounded theory. Data collection techniques were interview and participant observation, along with limited document analysis. Data analytic techniques, drawn from grounded theory method, provided a thorough way of coding and analysing data, and also allowed for the development of theory.

Findings – Key findings centre on the role of information in welfare work. Welfare workers mostly used resources to hand, "making do" with resources they already had rather than seeking new ones. They also recombined or re-purposed existing resources to make new resources or to suit new circumstances. Their information practices were found to be fluid, consultative and collaborative. The findings of the research have led to a deep exploration of bricolage as a way to describe both the use of resources and the processes inherent in welfare worker information practices.

Originality/value – The fact that there is a paucity of research focused on information practices of welfare workers in Australia makes the research significant. The bricolage theoretical framework is an original contribution which has implications for exploring other groups of workers and for the design of information systems and technology.

Keywords Information systems, Information management, Information theory, Bricolage, Information practices, Welfare workers

Paper type Research paper

Introduction

Although community-based organisations represent a vital component of the Australian services sector, exploration of the nature of the information practices of welfare workers in these organisations has been limited so far. The research reported in this paper used organisational ethnography and grounded theory methods to explore the nature of information practices, and how they fit into the daily work of welfare workers in a small community sector organisation in Victoria, Australia. The findings of ten months of fieldwork, including interviews and observations of welfare work, have led to a deep exploration of bricolage as a way to describe both the use of resources and the processes inherent in the information practices of welfare workers. Bricolage is the art of making something new using the materials and resources that are around you (Levi-Strauss, 1966). Bricoleurs do not formulate a plan to guide their actions, but gradually bring disparate materials and prior tacit knowledge together to meet a need (Harper, 1987).

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This paper describes the concept of information bricolage which emerged as a result of the study. Information bricolage is described as "the engagement in fluid, unplanned, collaborative information practices, through the use or recombination of resources close to hand" (French, 2014, p. 4). It describes the methodology and outlines key findings as well as presenting a model of information bricolage in welfare work.

Literature review

There are three different strands of literature which contribute to the background to the research: welfare work and information; information behaviour and information practices; and further exploration of bricolage.

Welfare work and information

The term, welfare workers, refers to paid or volunteer (unpaid) staff members who undertake work with clients in social services organisations. These staff may have backgrounds in fields as diverse as psychology, social work, counselling, case management, community development or nursing. Welfare work in this context is defined as "organized efforts by a community, organization, or agency to improve the socioeconomic conditions of disadvantaged groups in society" (The Free Online Dictionary, 2012). Thus welfare work encompasses activities such as counselling, emergency financial assistance, community development, case management and advocacy (Lyons, 2001). Clients may be assisted to enhance a particular aspect of their lives (e.g. to find a job) or to aim for a general improvement in their economic, social and emotional well-being (Productivity Commission, 2010).

A review of the literature on welfare work indicated that the importance of information management and use in welfare work is an overlooked area of study. The welfare literature seems to emphasise the study of clinical skills, while underestimating the importance of the informational work that workers undertake every day (Parton and Kirk, 2010), including assessing information needs of clients, seeking and evaluating this information, referring clients to other services and sharing information with other workers. It would seem that, although there is an increasing expectation for welfare workers to be information mediators, this important role has not been widely investigated, either in the welfare or information science literatures.

Information behaviour and information practices

The literature reveals two major labels that are applied to concepts concerning information seeking: information behaviour and information practices. The first term is seen as encompassing all aspects of human behaviour in relation to seeking and evaluating information, including identifying a need for information, selection of particular channels and sources, the giving, sharing or use of information, and the success or otherwise of this usage (Wilson, 1999a). The term, information behaviour, has been suggested as including active information seeking in its remit (Case, 2006), but also as embracing concepts such as routine information monitoring (Savolainen, 1995), information avoidance (Case *et al.*, 2005) or the accidental/serendipitous encountering of information (Erdelez, 1999; Pettigrew, 1999; Williamson, 1998).

The second term, information practices, is often seen as interchangeable with information behaviour (Savolainen, 2007) and can be defined as "practices of information seeking, retrieval, filtering, and synthesis" (Talja and Hansen, 2006, p. 113). The term is often applied in studies which discuss the social construction of information, where the emphasis is on shared meanings developed through social processes and language (Williamson, 2013a, b) or when referring to information-related practices that are firmly embedded in work and other social interactions (Savolainen, 2007). Information practices tend to draw on the social interactions of a community of practitioners, a sociotechnical infrastructure and a common language (Talja and Hansen, 2006). Because of the social nature of information use and the embeddedness of information in welfare work, the term information practices, is preferred over information behaviour for this research. In line with the definition of Talja and Hansen (2006), the term is seen to encompass all aspects of welfare worker interactions involving information, including information seeking, retrieval, evaluation, synthesis and use and verbal discussions of information. It is assumed that these information activities do not necessarily occur in a particular sequence and that there may be blurred boundaries. As described in practice theory research on workplaces (Schatzki, 2001), such activities are grounded in routine, often social interactions.

Although it is important to understand the nature of information practices and especially their relationships with, and impacts on, welfare work, there are few conceptual frameworks that describe a broad range of information behaviours and practices, or attempt to come to terms with the tacit, iterative and messy nature of the information role as actually played out in a real work place. There are some notable exceptions (e.g. see Lloyd, 2009; Lundh and Limberg, 2008; Solomon, 1997). People often follow a messy and iterative path when engaging with information and knowledge, what Pescosolido *et al.* (1998) called "muddling through". Any attempt to model information practices in a work context needs to capture the complexity of information behaviour which is often non-linear, iterative, embedded in particular systems and influenced by context. Because of the paucity of research, there was an opening to explore how welfare workers undertake informational tasks, and attempt to bring together ideas from the welfare and information behaviour/practice literature to assist in this endeavour. There was also a need to explore new theoretical approaches. Bricolage appeared to offer inspiration.

Work practices

The information practices of welfare workers reflect their work practices and integrate with them. The literature of work practices of welfare workers has often emphasised their fluid, improvisatory nature (Ferguson, 2008), where information tasks merge with other work activities. Welfare work often involves building on prior knowledge (often tacit) of techniques and services, rather than engaging in intensive information seeking and evaluation (Day, 2007). Limitations of time and resourcing may add to the tendency of welfare workers to rely on what they know.

Research on expertise and experts also reveals some insights into the work practices (and information practices) of welfare workers. For example, experts are seen to rely on tacit knowledge, often transferred to others through storytelling (Polanyi, 1966). This would account for the apparently intuitive nature of the way in which welfare workers perform their tasks. Experts' knowledge is embedded in their experience through which they learn what knowledge and skills can apply to new scenarios (Gould, 1999). An expert's work practice is often flexible and reflexive (Rolfe, 1997).

Bricolage

Bricolage derives from the French term "bricoleur", which refers to a handy man or odd job man, who is skilled at using supplies to hand to build functional objects

(Levi-Strauss, 1966). Bricolage rests not on breakthrough innovations but on gradual accumulation of knowledge about tools and materials, as well as an ability to re-use objects for purposes for which they were not originally designed. For example, a bricoleur may use a fence post to repair a floor (Baker and Nelson, 2005).

Levi-Strauss distinguished between examples of bricolage involving manipulation of materials and technology, and "bricolage on the plane of speculation" (Levi-Strauss, 1966, p. 21) which was concerned with ideas and theories (Hatton, 1988; Levi-Strauss, 1966). The analysis of how a bricoleur may use resource reveals that the original conceptualisation of Levi-Strauss (1966) can embrace "resources to hand" which may be physical objects, other people, but also conversations and tacit knowledge of the bricoleur. The majority of research conducted to date has focused on the development of technology rather than ideas (e.g. Garud and Karnøe, 2003). In particular, the bricolage concept has been used to describe the action of entrepreneurs and entrepreneurial firms. Baker and Nelson (2005) elucidated additional key aspects in entrepreneurial firms, including the use and recombination of resources to hand, rather than extensive searching for new resources. They also described the idea of "making do", which the authors suggested implied a tendency towards active engagement to solve problems rather than extensive planning or risk assessment.

Baker *et al.* (2003) introduced the concept of network bricolage, defined as dependence on pre-existing contact networks as the means at hand. Communities of practice (Lave and Wenger, 1991) have also been noted in a number of studies (e.g. Baker and Nelson, 2005; Garud and Karnøe, 2003) that focus on bricolage and entrepreneurs. There is clearly a social basis on which practice is sustained and reproduced over time (Duguid, 2005), and socialisation may be one of the keys to the success and ongoing sustainability of bricolage in an organisation.

Methodology

The study is constructivist (interpretivist) in its underpinning philosophy, drawing on both personal constructivist and social constructionist theories. Although not universally accepted, Crotty (1998) suggested that it is useful to use constructivism to refer to "meaning making constructed in the individual mind" (p. 58) and constructionism to refer to the "collective generation and construction of meaning" (p. 58). This approach was useful for the study since there was an emphasis on welfare workers making sense of their world on an individual basis, i.e., personally constructing reality, as well as the sharing of meaning amongst colleagues being important (Williamson, 2013b).

Within this philosophical framework, organisational ethnography was used to explore the role of information in the daily work practices of welfare workers in a small community sector organisation in Victoria, Australia. Since ethnography emphasises deep understanding of a culture or a community through observing and participating in practices of daily life (Patton, 2002), this method was appropriate. Organisational ethnography, specifically, was chosen because of its focus on the culture of organisations such as the Community Advice Service (CAS), the pseudonym given to the organisation at the centre of this research. The lead author worked part-time in this organisation, giving her the opportunity to observe welfare workers' information use in relation to their everyday work practices. Being an employee of the organisation meant that she already had some understanding of the organisational culture and the language of the sector. Thus having an "insider" role was very valuable. Patton's (2002) discussion of reflexivity was useful in dealing with the concomitant risks of overlooking the familiar and perhaps not having such an open mind. Ongoing journaling and discussion were used to ensure consideration was given to any assumptions or personal perspectives which may have influenced the data collection and analysis process. The research component was kept entirely separate from the paid record management tasks.

The participant sample consisted of 14 welfare workers (counsellors, case managers, social workers, psychologists and community development workers), all employees or volunteers at CAS. There were two client participants who had been attending CAS for support services for over six months and they were invited to participate by their respective welfare workers.

Data collection techniques

The fieldwork for the research took place over ten months, from October 2010 to July 2011. The two major data collection techniques were interviews and participant observation, with some limited document analysis being undertaken throughout the fieldwork period. Documents such as annual reports, mission statements and strategic plans were useful for gaining further understanding of CAS.

Interviews

While interviews are often part of participant observation – and short, spontaneous interviews were used as part of the participant observation component of the study – it was decided to treat them also as a separate technique in that they provided the participants' in-depth perspectives as a starting point and were crucial for scoping the initial themes. Semi-structured interviewing was used in the early stages of fieldwork, with eight interviews being conducted from October to December 2010. Not all of the research participants took part in an interview at this stage. A list of interview questions was used as a broad guideline only, and participants were encouraged by the interviewer to explore issues beyond what was directly asked. This is a useful characteristic of semi-structured interviews which allows for flexibility to pursue leads offered by participants (Williamson, 2013a). The interviews collected demographic information about participants, including their professional backgrounds and roles at CAS; and participant viewpoints about the nature and role of information practices in their professional life. The latter included their interpretations of the nature of their daily work and where information practices fitted into this work, the types of information and knowledge they used day-to-day in their work, how they organised and accessed this, and how information assisted them in their work roles. The interviews also touched on the role of technologies, such as ICT, procedural tools, and forms, and how they were used in practice. Wider contextual factors, such as requirements of funders, the culture of CAS and the community were also discussed. In early interviews participants introduced topics such as communication and work preferences, including the importance of collaboration, oral communications and telephone conversations. The themes of these early interviews led to minor revisions in questions used in later interviews (e.g. additional questions were included about supportive work, and programme requirements).

Participant observation

There were 17 sessions of participant observation, typically of between two and three hours duration (36 hours in total). These sessions were spread over six months, from January to June 2011. In total, 14 workers were observed, of whom eight had been previously interviewed. The sessions primarily observed workers as they completed supportive work tasks such as referral completion, advocacy and case consultation, although there were also two observation sessions with direct face-to-face contact with clients (two clients both attending one-hour sessions with their workers). There was also observation of workers completing administrative tasks such as data entry and reporting.

Participant observation can take many forms, from the researcher taking the role as an observer removed from practice, to being a full participant in the phenomenon observed (Van Maanen, 2011). In this project participation was seen as operating along a continuum (Glesne and Peshkin, 1992). The researcher moved from more to less participation depending on the practice being studied and the needs of the situation. For example, there were times when she asked questions about particular practices or was drawn into discussions of services which might be useful for particular clients. There were also instances where she withdrew to far more unobtrusive observation, particularly when a worker was telephoning a service or client.

Only some of the observations sessions were audio-recorded. Because it was difficult to note down all speech when several people were involved, interviews were recorded where multiple workers or a worker and client were participating.

Data analysis

Data analytic techniques, drawn from grounded theory method, were used as they provide a thorough way of coding and analysing data, and also allow for the development of theory. “Second generation” grounded theory Charmaz (2006, 2009) was chosen as the guiding framework because her constructivist philosophical underpinnings mesh well with the constructivist paradigm adopted for the research. The grounded theory components used in the analysis were as follows:

(1) Data were generally transcribed and analysed between each day of fieldwork, with initial coding influencing who and what was observed, or the nature of questions asked.

(2) Incident by incident coding was used for interview and observations (usually done task by task).

(3) Focused coding was done through conceptual mapping (mind maps) and memos.

(4) Theoretical coding was done through theoretical memos, concept maps, comparative tables and Venn diagrams of key concepts.

(5) Constant comparison occurred at all stages of fieldwork and data analysis. Responses were compared across participants and also across components of data collection, e.g., interviews and participant observation sessions.

(6) Theoretical sampling was used at later stages of the participant observation. For example, identification of instances of collaboration between workers led to selection of participants who were working together on common client issues.

(7) Memos were used extensively.

(8) Some tools recommended by Charmaz (2006), such as memos and concept maps, were used for theory building.

Findings: conceptualising information bricolage

Key findings from this research centre on the role of information in welfare work and have led to the development of the concept of information bricolage, defined as "the engagement in fluid, unplanned, collaborative information practices, through the use or recombination of resources close to hand, including information resources and the knowledge of the person and their networks" (French, 2014, p. 4). The following describes how the findings from the research led to the development of this conceptualisation. The relevant link to the bricolage literature introduces each of the findings. The initials (not the welfare workers real ones) are used to distinguish participants. RF was the interviewer.

Use of resources to hand

The original definition of Levi-Strauss (1966) emphasised that one of the discerning characteristics of bricoleurs is their use of materials around them to make new things, or their alteration of existing resources so that they suit a new purpose. The alternative to this method of working is undertaking extensive searches for new resources (Baker and Nelson, 2005). The welfare workers in this study clearly preferred using resources, both information resources and knowledge resources, that surrounded them in their work. They were only infrequently observed seeking new resources as illustrated by E and A in the following excerpts:

> E: Oh, that's my box of tricks [laughs]. It's actually my resource folder. I have all the info I tend to use a lot here, some of it is pamphlets and stuff, but I have also made my own list of contacts, which is probably the thing I use the most.
>
> A: The longer I work here, the more information I just know myself. I am way more likely to just ask someone in my office, or, if it is something about a specific area, like education, I would ring a colleague who is now a school social worker and ask her.

The key resources of the welfare workers in the study were their colleagues, their personal treasure troves (or "box of tricks") of frequently used paper and electronic information resources, their own tacit knowledge of the clients, service systems and community, and the knowledge of their colleagues.

"Making do"

In the bricolage literature, the idea of "making do" refers to a tendency towards active engagement with a problem through improvisation or discussion, as opposed to undertaking extensive planning or assessment to compare viable solutions (Baker and Nelson, 2005). While the welfare workers were seen to use planning tools on occasion, they preferred to work "on the fly", gradually developing solutions and resources to assist clients with their information needs, in consultation with their colleagues, or using knowledge gained from previous client work. For example, workers described the process of figuring out what clients' issues may be while talking to them, and then quickly drawing on different combinations of information provision, financial help, advocacy and internal and external service referral to quickly assist them. Advice might be sought from colleagues regarding the strategies to best resolve particular issues, but these follow-up actions were usually enacted without formal assessments, case plans or formal information searches, as the following exchange with J, a financial counsellor, indicates:

> RF: OK, so do you tend to follow a systematic process, where you conduct a formal assessment, do a written action plan, then regularly review goals with a client?

> J: Well yes and no. I think over time you end up doing those steps, but it never seems to end up being formal like this. You might talk about a rough list of problems with them, or check what they think the problems are, and what you might be able to help with, with each one. I often find myself just jumping in to some extent. Looking at the most important issues and trying to do something about them. It's not very often that you get time to do reports about these things, and you often are dealing with multiple clients at once, and multiple issues. It's a moveable feast or something – what you decide to do on a particular day will depend sometimes on what becomes urgent. This can change as new things come up.

J described client work as a "moveable feast" with a need to "work around" and change priorities (both in terms of which client she was helping and what issues she was addressing) depending on the urgency. Duymedjian and Ruling (2010), speaking of traditional bricolage, called this process "dialogue" with the resources, implying a constant reviewing of resources and ongoing use and recombination of these resources in response to the problem situation. The study fieldwork revealed that there was a process of interaction, where resources influenced information bricolage practices, which affected which resources would be incorporated into the knowledge base or treasure trove of resources. Welfare workers "dialogued" with the resource assemblages and knowledge to provide service delivery for clients.

Recombining or repurposing existing resources to make new resources or to suit new circumstances

While this aspect of bricolage often refers to physical resources, such as wind turbines (Garud and Karnøe, 2003), it can also refer to ideas. When a traditional bricoleur engages in dialogue with their resource trove (Duymedjian and Ruling, 2010), there is not simply direct application of one resource to a problem. It is more likely that a resource may be re-purposed for a new application or combined with other resources to achieve an outcome. Resources are not always used for the purposes they were originally intended (Garud and Karnøe, 2003).

Welfare workers at CAS relied heavily on their "treasure trove" of resources in their heads and in electronic files or paper folders stored near their desks, similar to the mechanics described by Baker and Nelson (2005). Their colleagues also made up a key component of this treasure trove, and particularly assisted in the process of mixing and repurposing resources in combinations to meet the unique needs of particular clients. Thus welfare workers were observed to bring together knowledge of information practices and also wider work practices. They brought clinical expertise and synthesised this with their knowledge of services, the client and factual information to produce supports for clients, with the aim of mitigating client issues and ultimately making their lives better in some way. An excerpt from the interview with J, a financial counsellor, makes this point clear:

> RF: Tell me about how you use information and knowledge to help your clients.
>
> J: Well, many of the clients that come here have complex sets of issues, particularly those I see. Yes, they might need financial counselling in the traditional sense of a one-to-one session, where I might teach budgeting, e.g., but there are usually many reasons behind having financial problems, from literacy issues to lack of a fixed address. There are systemic issues that we try and push against, but are sometimes intractable, like low government benefits. So when I am working with people, giving them information or finding out something which may help them, I have to bring together many different skills and info. For example, I might use my coumselling skills, a problem-solving method, an online budgeting tool and

> information I know about the client and their situation to work with them on budgeting. You just bring all that together and merge it into a session.

In this example, professional knowledge of counselling and problem-solving techniques, together with use of an online tool, is coupled with information about clients and their unique context to teach budgeting. Synthesis, or recombination of resources, is a key component of information bricolage, and noted in the bricolage literature (Garud and Karnøe, 2003; Shaw and DeForge, 2012). Synthesis of information resources has also been discussed in social work when describing the construction of knowledge in practice (Osmond and O'Connor, 2004). Synthesis "brings together two or more different factors, which are perceived as separate, into a single unity" (Peile, 1994, p. 214). Recombination could result in the development of a new resource artefact, such as a client budget with take home notes, but the outcome of information bricolage could also be a cluster of resources brought together for a new purpose, such as combining problem solving with a video on getting a driver's licence.

Fluid information practices

Fluidity refers to practices that are iterative, complex, interconnected streams of activity (Ferguson, 2008). The mobile is emphasised over the static (Sheller and Urry, 2006). While the bricolage literature does not refer to described work practices as fluid or liquid, it does speak of blurred boundaries between tasks, with an emergent rather than pre-planned approach, allowing for improvisation and gradual transformation and emergence of solutions (Garud and Karnøe, 2003). Thus the typical work processes of a bricoleur are incremental rather than highly structured, often characterised by a blurring of processes and boundaries between the usual steps of a process, or between the roles of workers (Garud and Karnøe, 2003).

Fluidity was certainly reflected in the observations of welfare workers, who sometimes undertook several informational tasks at once and blurred boundaries between traditional information search stages such as "identifying need" and "evaluation and synthesis". They were able to quickly respond to the needs of clients without planning. There were many examples of these blurred boundaries and fluidity, between different tasks, and different stages of the service process as indicated in the observation of Z, a volunteer, and the interview of B, a community development worker:

> (1) Z is on the telephone speaking with a client.
>
> Z: So tell me how you are going?
>
> Z pauses for 15 seconds.
>
> Z: OK yes I can wait.
>
> Z pulls out two pamphlets from a folder on her desk. She then turns to the computer and begins writing a case note on a word document template.
>
> Z: OK, so you are OK to talk now? I talked to Centrelink for you, and you have an appointment on Tuesday with the social worker. I have the details here [Z gets another card from under her folder].
>
> (2) RF: What is your typical approach with working with clients day-to-day?
>
> B: I find that I don't do things in set steps – I know which clients I have to work with, and the tasks I have to do and the urgency, and then I just work through them. I guess all the parts, like assessing what's going on with them and how to help them, happen, but they feel like they are all happening at once, and changing as urgency changes, rather than happening one

> step at a time. I usually have a sense of what I have done by the end of the day, and for who, but not always exactly how I have done it.

Thus here was a sense of blurred boundaries and fluidity, and also interweaving between different tasks, i.e., moving from one tasks to another, then perhaps back to the original, as Z moved from telephone call, to getting the pamphlets, to the case note and back to the telephone call. Interweaving or interlinking has also been noted in the daily practice of nurses (Gobbi, 2005). In this fieldwork, it was frequently noted across all observation sessions and featured in descriptions with the majority of interview participants. Work appeared to proceed with little structured pre-planning, although workers spoke of sometimes preparing a to-do list, or mapping out their response to client problems in their head before proceeding.

Consultative and collaborative processes

Traditional bricolage is described as involving an incremental, collaborative approach, building on the knowledge and insights of many (Garud and Karnøe, 2003; Weick, 2001). Individuals or groups of bricoleurs tend not to produce breakthrough innovations but rely on a gradual accumulation of knowledge (Garud and Karnøe, 2003). Welfare workers at CAS relied on their networks and knowledge to gradually improve their support to clients and to help solve client needs, including informational needs. It was observed that the client story, preferably communicated orally, was the primary vehicle by which insights were shared about client support and when discussing what works in a particular situation or community. An excerpt from the interview with D, youth worker, illustrates this point:

> D: I work with other workers all the time. Sometimes we are both assigned the same client, because we bring different skills and ways of helping to a case that can best assist the young person to make changes in their life. At other times, we work together more informally, through just offering advice or helping think through a thorny problem. Of course, that advice and how long the discussion takes can vary a lot. Sometimes it is just asking a phone number, other times it is really taking the time to talk through a problem when you are unsure what is best to do. I really try and stop to talk if I possibly can, I think we all try and support each other.

Collaborative information practices usually involved verbal discussion and the telling of client stories. Workers reported that collaboration could assist with simple tasks, such as sourcing basic information, but also allowed for more complex discussion of service options, or reflection on particular cases. The interviewee in the excerpt above also reported that workers tried to "support" each other, which implied that work colleagues supported each other emotionally as well as informationally.

Embedding information in daily work practices

The embeddedness of bricolage in daily practice has been noted in studies of traditional bricolage (Andersen and Norus, 2003; Cleaver, 2002) and in information behaviour research (Solomon, 1997). Bricolage did not occur in isolation in this study (i.e. as an isolated, separate process), but was embedded in more general daily work tasks and the wider practice of bricolage by welfare workers. This is in line with the alternative view of Cox (2012) who saw information behaviour as primarily a social practice, not able to be easily isolated from daily tasks.

Information practices were an important part of welfare work daily practice, with its frequent need to link and refer people to services and to provide information to assist with problem solving and the teaching of skills. Welfare workers at CAS engaged in information bricolage rather than in discrete, stepwise information behaviours. Resources that surrounded them and their own knowledge were utilised, and improvisation and active engagement was preferred over pre-planning. Information bricolage was integrated into the fluid practices of daily work, sometimes with workers not always having awareness that these tasks could be considered separate, as the interview with S, complex case manager, attests:

> S: It's funny, I don't often think about how I use information. I mean I know I have resources that I find really useful, and I prefer to go talk to people if I can rather than looking it up somewhere, but I don't think of it as a separated process, if you know what I mean.
>
> RF: Could you talk more about why you don't see it as a separate process?
>
> S: I think because it just all flows in to the tasks I have to do for clients, if I don't know something I will go find it out, but I am always thinking about it in terms of the wider issue of the client and what I am doing to help, not as a problem of not having information.

Information bricolage was embedded in daily practice even when workers were not explicitly aware of it until they were asked. The boundaries between what are considered typical information behaviour steps, such as identifying an information need or searching for information, were blurred as were the boundaries between these steps and other tasks. A query for a particular information resource might actually result in workers reflecting on their practices, be used as an opportunity for problem solving with a client, or be used to advocate on a client's behalf.

Use of deep expert knowledge

Welfare workers had extensive knowledge of the service system, the community and their clients, as well as the information practices needed to achieve optimal service outcomes for their clients. In the current study they needed to use this expert knowledge to assess and respond quickly to client needs, selecting the most appropriate collage of services and supports to meet these needs, as the following excerpt from the interview with U, a financial support worker, indicates:

> U: When a client comes and sees me, they are usually in financial distress of some sort. Because of this, I aim to figure out what the critical problems are, and then I often jump to coming up with solutions pretty quickly. Often it is not just one thing, so we will have to work out a range of supports, like emergency relief, financial counselling, learning budgeting, and maybe advocating for them about their bills. Sometimes, we give them vouchers too. I carry round a lot of these options in my head and draw on mixes of them as needed.

The range of expert knowledge of importance in social and welfare work has been discussed by a number of authors. For example, Trevithick (2012) discussed the importance of theoretical knowledge, factual knowledge (which may be about people, services, social and agency policy, or laws), practice knowledge and knowledge of service users/clients. She suggested that these knowledge domains interact to enhance the skills and interventions of social workers. The worker, in the interview above, discussed her knowledge in terms of a number of these domains, particularly factual and practice knowledge, and use of this knowledge to meet the needs of the person. This wide-ranging knowledge of the systems, networks, resources and practices also has commonalities with the findings of Duymedjian and Ruling (2010) and Shaw and DeForge (2012).

In contrast to studies of social workers or case managers which have emphasised knowledge of structured practice models and administrative skills as being critical (Dustin, 2006), welfare workers in the current study drew on a wide range of knowledge when they engaged in work practice and information bricolage, much of which was tacit and, in the manner common to other experts, intuitive (Polanyi, 1966; Trevithick, 2008, 2012).

Defining and modelling information bricolage

The definition of information bricolage, below, has taken key elements of traditional bricolage, such as the re-use and recombination of resources to hand, and broadened these to encompass other elements emerging from an information context such as fluid information practices, and knowledge of people and their networks. Thus the term, information bricolage, has been used to bring together bricolage practices and information practices, resulting in the following definition:

> Information bricolage is the engagement in fluid, unplanned, collaborative information practices, through the use or recombination of resources close to hand, including information resources and the knowledge of the person and their networks. Information bricolage is embedded in other daily work practices rather than existing in isolation.

This definition is at the centre of the conceptual model of information bricolage outlined below.

A model of information bricolage in welfare work

Information bricolage is a new concept introduced through this research and is key to the creative work with clients in this welfare context. As noted above, information bricolage refers to both a particular way of choosing and using resources, and a preference for iterative, fluid information practices. Both of these factors rely on the knowledge of the worker – of the range and nature of the resources to hand and how to use information to support clients. The process of creating a package or collage of services and solutions leads to a service outcome that will improve the lives of clients. The combination of the resources and information practices used will be influenced by contextual factors, such as the profession the worker belongs to, the community and cultural context.

To assist in the understanding of information bricolage in welfare work, below is a conceptual model (Figure 1) which includes the elements, resources, knowledge and information practices which are situated in a particular context. The elements are visualised as cogs that drive the information bricolage process, which is also influenced by a range of contextual factors, e.g., the profession the worker belongs to, the community and cultural context. The three elements work together in context, in response to client needs, to drive creation of client outcomes. Thus workers are enabled to provide support to clients and service delivery outcomes are enhanced in an organisation.

Resources, knowledge and information practices are central elements in information bricolage. They are the gears that drive information bricolage. In the model they are visualised as cogs working in tandem with each other to signify that information bricolage is on ongoing and evolving process, rather than having a set beginning or end. The three elements work together to drive the creation of client outcomes. Note that the size of the cogs does not reflect the relative importance of the elements, and the direction of the arrows merely implies movement and ongoing processes rather than particular directions having significance.

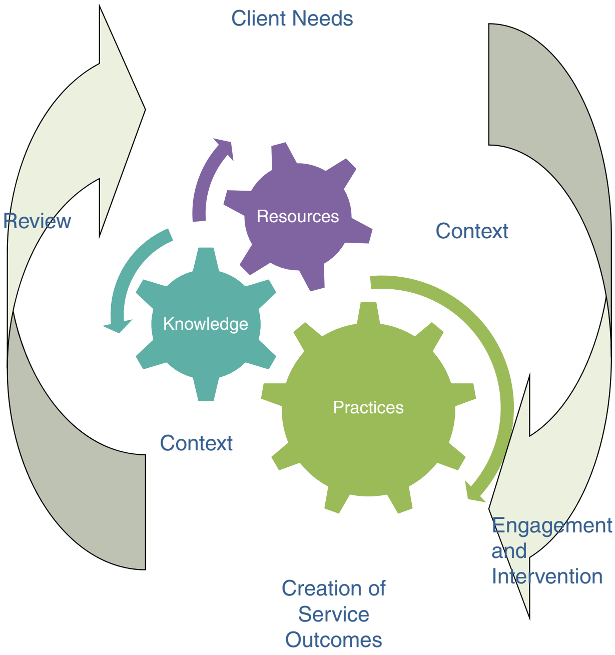

Figure 1. Conceptual model of information bricolage in welfare work

The information bricolage model is pictured as cogs rather than a stepwise process because a structured process of information behaviours or information practices, with clear tasks such as "search" or "evaluate", was not detected in the research. Information bricolage is, by its very nature, fluid and difficult to map. Because information tasks or resources often overlap or have blurred boundaries, broad elements were included in the model rather than the usual steps of information seeking or resources use. The model has more in common with models of information behaviour or information practice that do not map a linear progression of information search and use, such as the ecological approach of Williamson (1998) or the non-linear models of Foster (2004) and Godbold (2006). Also, information behaviour processes often focus on new information, and may imply a process outside normal work practices. In contrast, this model shows information bricolage in context. Context may make bricolage more or less likely to occur, or change the nature of the practice.

Conclusion – implications for information research and practice

The research reported here explored the concept of bricolage, used for the first time in information practice and welfare work research disciplines to describe the intricate relationships and dialogue between information practices, information resources and welfare worker knowledge.

Findings of the research project, synthesised with notions of bricolage and information practices from the literature, have allowed formulation of the concept of information bricolage. The concept is unique in this context and has evolved as a direct result of the research. Development of a definition of information bricolage and a primary conceptual model of information bricolage are key outcomes of the study. They have the potential for application as a way of better describing autonomous creative work practices that involve information, not only in the welfare and health sectors, but also more generally across the community sector.

The conceptual model of information bricolage provides an alternative view of information practices as compared to models of information behaviour which are often focused on structured searching for new information (Case, 2012; Pettigrew *et al.*, 2001; Wilson, 1999a, b). The information bricolage model provides a rich picture, indicating how information resources and knowledge are engaged in an ongoing dialogue with information practices while considering the impact of contextual factors. In particular, the information bricolage model is a better fit for the fluidity of information practices as described in the research – information practices which are embedded in the daily practice of welfare work.

The conceptual model of information bricolage has some commonalities with descriptions of information practices in the literature, with their emphasis on the social construction of information and on information-related practices that are firmly embedded in work and other social interactions (Savolainen, 2007). The social nature of many of the information practices, occurring as part of a larger oral culture within the organisation at the centre of the study, was indeed frequently observed. Nevertheless, individual workers also brought their personal perspectives into the mix.

Additionally the embeddedness of information practices in welfare work has commonalities with the findings of other studies that have focused on information practices (Lloyd, 2009). Using the label, information bricolage, highlights the presence of other key factors such as use of to-hand resources, synthesis of knowledge and information resources, and the iterative dialogue between resources, information and work practices that is at the core of bricolage. The model brings to light the importance of both the socially constructed and personal knowledge that interweave and allow this dialogue to occur. The social and the personal come together, to allow the welfare worker to achieve good client outcomes.

There are concomitant implications for the design of information systems and technology. Technologies, such as electronic databases and forms that are designed with requirements of funders rather than practitioners in mind (Gillingham, 2013), may be problematic as they are often inflexible and do not support fluid practices. Recognition of information bricolage and the wider characteristics of welfare practice should result in technologies such as forms, procedures and electronic systems that are modular, personalisable, and support an iterative, cyclical, evolutionary approach to assessment and planning. Worker autonomy and flexibility should be supported through the development of policies which emphasise critical decision points or data collection points, rather than detailed step by step procedures.

Information bricolage, because of its fluidity, complexity and resistance to easy categorisation, may not be accepted as a legitimate form of work practice in wider areas, particularly since it contrasts so sharply with preferred linear work practices as outlined in management literature and as embraced by government funders (Braithwaite, 2000; Lohkamp, 2006; Parton, 1998). Bricolage has been described in other studies as being a hidden way of working, with the reality of work practice being smoothed over in reporting to better conform to organisational policies and procedures (Duymedjian and Ruling, 2010). Nevertheless welfare workers in this study not only engaged in information bricolage frequently but were free to use it as a preferred and effective means of work practice. Recognition and support for information bricolage in welfare sector organisations may therefore allow workers to understand better the true and effective way in which they already work, and for policy makers and organisations to design systems which support and encourage this way of working.

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