Our aim is to introduce an emerging understanding of how practice theory can be used to frame the analysis of (work) task-based research. This analytical work is tentative, but has the capacity of furthering task-based research by addressing the dialogical relationships and embodied performances that constitute practice. We argue that analyses of task as a constitute element of practice can contribute to a rich discussion of knowledge construction in information studies.
Practice Theory and Work Task Performance: How Are They Related and How Can They Contribute to A Study of Information Practices

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ABSTRACT
Our aim is to introduce an emerging understanding of how practice theory can be used to frame the analysis of (work) task-based research. This analytical work is tentative, but has the capacity of furthering task-based research by addressing the dialogical relationships and embodied performances that constitute practice. We argue that analyses of task as a constitute element of practice can contribute to a rich discussion of knowledge construction in information studies.

Keywords
Task-based studies, practice theory, information practice, information seeking, work task.

INTRODUCTION
During the past two decades, task-based information seeking and information retrieval studies have become a prominent research area with a close relationship to system design. About the same period of time more socially oriented methodological views have gained attention in information studies. Task-based studies encompass a multitude of research approaches that differ in epistemological views and research methods from qualitatively oriented studies in real-life settings to quantitative, controlled laboratory experiments. Practice theory represents a strong socio-cultural view on participatory knowledge creation. This perspective is increasingly used to understand and explain diverse contextually bound information practices.

To-date, the concept of information practice lacks a fixed meaning in the field of information studies, although among many of proposed definitions (e.g., McKenzie 2002; Savolainen 2008; Lloyd, 2010) there is a focus on social and cultural dimensions and the dialogical nature of relationships in participatory environments. In this paper we characterize information practice as a social practice that is composed of a range of activities, e.g. to produce information, to seek and acquire information, to place value and evaluate information, to identify and compose information into meaningful combinations, to distribute and share information, and, in general, to put information into use. The above activities may also be contested resulting in deliberately withholding or failing to provide appropriate information.

It is through the concept of information practice that we address work task performance from a practice theory perspective. A common ground is sought through a focus on engagements in work encounters, situations and other happenings, which are embedded in the social, cultural and historical context of the participating human and non-human actors. In this respect the emergence and performance of work-tasks will reflect the ontological and epistemological conditions of the setting that materialize as the sayings and doings of practice (cf. Lloyd 2010).

Within the field of information studies, practice theory appears as a fruitful analytical tool that can frame the understanding of how (work) task as an element of labour are performed and understood by workers as part of their workplace practice. A focus on work task performance provides an empirical opportunity to identify how information practices are constituted in specific types of situations, such as performance of routine vs. innovation.
oriented work tasks or profession oriented vs. administrative work tasks. Studying information practices in relation to different types of work tasks may also elucidate how, if at all, information practices are transformable between different contexts.

**PRACTICE THEORY IN INFORMATION STUDIES**
A practice can be defined as an organized nexus of human activities which are in turn composed of tasks and projects (Schatzki 2002). Understanding how a practice emerges, is situated, composed and performed enables researchers to understand the character of the site and more importantly for information studies researchers, to understand how information emerges and is shaped into knowledge. Practices are shaped by the sayings and doings of the context; they are therefore reflected in the discourses and language games that drive the performance of work.

The concept of practice has been taken up by philosophers (e.g., Merleau-Ponty 1962; Schatzki 2002); and socio-culturally oriented theorists (e.g., Giddens 1984; Lave 1993; Schatzki 2002). Some theorists describe practices as arrays of activity (Schatzki 2001, p. 2); others define them as skills or knowledge that ‘underpin activities’ (Schatzki 2001, p. 2) or as routine happenings (Reckwitz 2002). A common agreement among them is that knowledge is constructed through engagement with others who are co-present and co-participating in the practice of the setting, and in peoples’ relationships with the tools, signs and symbols that characterize and shape the practices of the setting (e.g., Lloyd 2011). Furthermore, there is an agreement that practices are constructed, shaped and reshaped over time, subsequently practices reflect the history and tradition which embodies the social, political and historical conditions of a setting (e.g., Schatzki 2002).

The production and co-construction of knowledge, and the understanding of its distribution and use within an information landscape is constituted through information practices which have been recently defined as

“An array of information related activities and skills, constituted, justified and organized through the arrangements of a social site, and mediated socially and materially with the aim of producing shared understanding and mutual agreement about ways of knowing and recognizing how performance is enacted, enabled and constrained in collective situated action.” (Lloyd (2011, p. 285)

**TASK-BASED APPROACH IN INFORMATION STUDIES**
In information studies, a work task is often defined as a piece of labour that is embedded into a context of work within which it forms a meaningful whole (e.g., Byström 1999, p. 24). It has a purpose, a beginning, requirements, goals, an end, and it is recognized as legitimate entity by task performer(s) as well as others in the workplace, sometimes even outside it. For example, attending to a patient’s aching tooth is a commonly recognized work task of a dentist, in- and outside a dentist’s reception. This definition distinguishes *work tasks* from an array of other understandings and definitions related to *tasks* that extend all from a function related to an information retrieval system or taking an X-ray of teeth, to carrying out a literature review or a major dental intervention plan. The definition acknowledges that work tasks consist of sub-tasks of different kinds, such as to take an X-ray of an aching tooth or removing the infectious parts of the tooth, as well as looking for information on the X-ray or consulting a colleague about the extent of the intervention on the tooth. It may, and has been argued that all the aforementioned tasks are indeed information usage (cf. Veinot, 2007), but so far it has been the aspects that explicitly involve information seeking or sharing that form the core research interests within task-based information studies.

Views on work task performance vary depending to the focus, research interests and epistemological stand points of researchers. The focus may therefore be

- an instance of social context (sociological perspectives)
- an experience in people’s lives and out of their individual prerequisites (psychological/cognitive perspectives), or
- an occurrence in the material and immaterial technical environment (organizational/management perspectives).

Work tasks may be seen as part of every-day doings in workplaces. Informational elements that surface in their performance reflect the immediate shared work context – work mates, established relationships, goals, attitudes, values, routines. The more distant organizational actors (human and other) of fluctuating nature together with the immediate work context construct the workplace setting. Thus, the work task performance – whether performed by a single person or in co-operation – is never an act in solitude, but intertwined to other doings and other people of the work context.

Work tasks may also been viewed as part of people’s lives in general; it is separable, at least in abstract level, from other every-day doings like those within family. A person may choose a certain attitude, a certain goal-setting for personal development as it comes to his/her work tasks, and this may differ from attitudes and goals in other areas of a person’s life. Work task performance, if not automated, is always dependable of individual characteristics, knowledge, experience and motivation; and never completely separable of doings going on in people’s lives in- and outside work.

A third outlook on work tasks addresses them as a process situated in an organizational environment. A technical environment of a workplace consists of resources, tools and artefacts that provide a material frame for work task performance, either supporting or distracting it. These material elements may be such an inherit part of a work task performance that without them the task cannot be carried out at all, and it ceases existing. A change in the material environment of relevance thus always leads to modification of work task performance. An organizational
environment also consists of immaterial elements such as values, norms and administrative arrangements, often named as organizational or information culture (cf. Choo 2006). Similar to the material elements, they also contribute to shaping a work task performance.

Within every single work task performance a multitude of expectations, experiences, beliefs, motivations, goals, tools, requirements and ideas culminate. This multitude is seldom, if ever, reflected upon in routine task performance; a work task is performed and the result of it is incorporated on the everyday flow of doings in the workplace. This type of task performance strengthens the existing contextual and individual attributes. In more innovatively oriented task performance, some of these attributes become illuminated, perhaps even scrutinized, and subsequently strengthened additionally, weakened or altered. Thus, task performance – as every instance of acting – is part of the evolution of both the context and the person.

Seeing work tasks as an intrinsic part of every-day doings in a workplace does readily allow them to be considered in the framework of activity theory, especially in the light of the later development and interpretations of it. In this framework, a specific kind of work task may be seen as an activity consisting of actions (deliberately chosen doings/sayings) and operations (doings/sayings by routine) (cf. Allen et al. 2011; Wilson 2006), or rather an instance of an activity that assembles certain actions and operations. Depending on the defining constituents, like requirements and resources, that a work task is given in its context (intentionally or by routine), different sets of actions and operations become legitimate. This view may be examined further in the frame of practice theory.

**WORK TASK PERFORMANCE IN PRACTICE THEORY PERSPECTIVE**

In the frame of activity theory, task performance is a case of an activity that bundles a set of actions and operations together. Many actions and operations are shareable among different work tasks. If a dentist attending a patient is seen as an activity, a dentist attending an aching tooth becomes a part of this activity, where different actions/operations such as taking an X-ray, locating the infected area, removing infectious parts, filling the hole and polishing the surface. This may also be understood as a work task. The concept of work task emphasizes the focus on the process of actions/operations taking place in a time frame where certain sequential order is valid (i.e. filling the hole is not possible before there is a hole to be filled), and where anticipation of what will follow is guiding the preceding actions/operations (cf. Allen et al. 2011). Simply put, the more common a work task and the more experienced the dentist and their team, the more taken for granted the doings and sayings related to actions/operations are.

Work task performance depicts relatedness of sayings and doings around a certain type of emergence of work duty, and as an operative concept, work task provides a strong unit of analysis. It has even produced analytical models to understand relationships between work related goals and information practices (cf. Järvelin & Wilson 2003). However, in a meta-theoretical level it is open for alternative perspectives, for example it has been linked to cognitive perspectives emphasizing the role of individual (e.g., Li & Belkin 2008; Ingwersen & Järvelin 2005), and in numerous studies within information retrieval a task-based approach is used to study system properties. Byström’s (e.g., Byström & Järvelin 1995; Byström 1999) empirical work on perceived task complexity on real-life workplaces allows different meta-theoretical options. On the one hand, the perceived complexity of a work task may be seen from a cognitive point to view where the individual is the empowering source and has a definitional supremacy of the perception of work task complexity. On the other hand, the perceived complexity may be seen from contextual point of view, where the individual’s perception simply mirrors the agreed upon view on the complexity of a certain work task at the workplace (cf. Byström 1999, 2007).

The theoretical allusion to practice theory becomes appealing out of above reasoning. This view underpins the sociological concept of shared knowledge and ways of knowing; a (complex) work task is only recognizable as a (complex) work task if people agree it to be a (complex) work task in a specific work context (cf. Byström, 2007). The emphasis is then placed on the socially shared and contextually bound view upon work tasks – work task is conceptualized as a social construct, i.e. a happening of practice, and its performance is understood as a result of temporal convergences of elements from activities constructing the practice. Turning back to the work task of a dentist attending an aching tooth, we argue that the subtasks (e.g., the taking of an X-ray) belong to different activities of the (local) practice of dentistry (cf. Lloyd 2011). A subtask (e.g., the taking of an X-ray) may be a part of different work tasks (e.g., attending an aching tooth or carrying out a dental examination). Thus, the subtasks that are temporal in time and space, are instances of an activity (e.g., the taking of an X-ray) that in itself have long history of traditions as well as material and immaterial development within local dentist’s reception, dentistry in general, and society at large (cf. Schatzki 2002).

**CONCLUSIONS**

The theoretical perspective offered by practice theory may be used to understand the wider contextuality of work task as a concept and as a unit of analysis. Practice theory opens up the task-based performance for the informational potential outside verbally expressed, documented or oral information, to information that is embodied, tacit and socially legitimized. It acknowledges the power relationships that drive the performance of work tasks, by focusing attention on the dialogical relationships of information practices that enable and constrain the performance of work tasks, and also influence the ways of knowing how to perform work tasks. It places work task performance into a context of activities that constitute the
information practice as well as into a context of socio-cultural, historical and material-economic conditions that characterize the formation of the information practice.

For task-based research, practice theory provides an alternative and complementary view to psychological and organization theoretical views. For information practice research, the concept of work task offers an alternative and complementary unit of analysis where instances of activities within information practices are bundled together in an explicit act of work. Practice theory facilitates an inquiry between work tasks and the context of which they are part. Potential area of research include 1) an exploration of how the social conditions that enable practice influence the performance of work tasks and 2) why they are performed in particular ways.

We are aware that the theoretical analysis here is tentative and will require recasting as the concepts are sharpened. However, we argue that this line of reasoning increases possibilities to understand and utilize research across the fields of information literacy/practice and task-based information seeking research, and perhaps even task-based information retrieval. We believe that these types of analyses are necessary and that they contribute to the fruitful development of information studies.

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REFERENCES


