

# Organizational Knowledge Sharing, Information Literacy and Sustainability: Two Case Studies from Local Government

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**Abstract.** Sustainability goals are at the center of a range of local government initiatives in Australia. Such initiatives are often developed in response to community needs and to the broader needs of urban greening. This study takes a sociocultural approach to two such initiatives, one involving intra-organizational and the other inter-organizational knowledge sharing and applies a framework of information literacy activities to the analysis of participant's knowledge sharing experiences. This framework was supported by the findings though *Influencing* and *Sharing* were more prominent than *Information work* and *Coupling* activities. *Sharing* activities became the norm in the study, underpinned by the expectation that the expertise of participants would be validated and incorporated into the collaborative endeavor. Expression of emotion was minimal when the normative nature of this activity was highlighted however emotions were experienced when the norm was not being followed and when participants believed that their contribution was not being validated.

**Keywords:** Knowledge sharing · Information sharing · Emotion · Practice theory · Sustainability · Information literacy · Biodiversity

## 1 Introduction

Increasing pressure on national, state and local governments to improve environmental, social and economic sustainability has necessitated reviews of long-held organizational practices as well as attempts to identify more sustainable solutions to organizational and community issues. Local and state governments in Australia have developed a range of initiatives aimed at enhancing sustainability that involve both intra-organizational and inter-organizational collaboration and knowledge sharing. Such initiatives are often customized for, and arise from, the unique characteristics of the local government organization in which they develop, as well as to the social and environmental characteristics of the local community.

This study investigates two Australian local government initiatives that have several features in common. First, both have arisen from the specific demands and characteristics of their local context or 'place'. Second, both represent organizational responses to increasing demand for greater environmental, social and economic sustainability.

Thirdly, both initiatives demand a high degree of co-operation, collaboration and information and knowledge sharing on the part of their organizational participants. While the focus of the investigation is organizational knowledge sharing practices, the theoretical framework adopted encompasses a broader concept, that of information literacy [1], of which information or knowledge sharing is a central activity. In addition, while the investigation into both initiatives focuses on participant reported experience, and thus reveals the cognitive aspects of the sharing experience, it also sheds light on the more affective and emotional aspects of the participant knowledge sharing experiences.

## 2 Review of Recent Literature

Place-based planning, introduced in Warringah, New South Wales, as an experiment at the beginning of the twenty-first century, views places as social constructs, and this means that different perspectives, interests and expertise need to be brought together through innovative processes in the workings of local councils [2]. These processes must foster cultures that are well informed, well integrated and nimble, favoring collaborative approaches in the development of new ways of working and new ways of communicating [3]. An important aspect of this new way of working is the move away from traditional “professional silos” [4] to integrated and outcome-focused teams. The establishment of a common group identity is important in collaborative working processes [5], whether among and between experts and laypersons or among people working in so-called professional silos.

Knowledge sharing is seen as fundamental to initiatives in organisations working towards sustainability [6] and the development of knowledge in a collaborative context is essential for understanding issues and modifying practices [7]. Craig and Allen [8] similarly noted that sustainability champions with the knowledge, skills and influence to promote changes were critical to the success of innovation. Studies of knowledge sharing in sustainable development tend to focus on the mechanisms through which knowledge sharing is achieved and the boundary spanning and facilitating processes through which specific expertise can be incorporated into a policy-making process [9].

The theoretical approach taken in this study is that of practice theory which emphasises the importance of context in social life as opposed to an individual’s mental states, as well as the importance of ‘sayings, doings and tasks’ [10]. Gherardi [11] summarises that a working practice is a collective activity undertaken in a particular place at a particular time which assumes all the variability connected with the context that encloses it and makes it possible [11, p. 202].

Information or knowledge sharing activities may be seen as practices in themselves and/or components of larger practices such as information literacy. Indeed, knowledge sharing practices have been seen as central to the concept of information literacy, the meaning of which, as Limberg et al. [12] acknowledge, varies according to the theoretical lens from which it is approached. In a theoretical paper examining the concept of information literacy, Lloyd [1] suggests that information literacy is a practice that occurs inside other practices and, as such, the unit of analysis for researchers should not be the information skills themselves, but the sociocultural affordances furnished within a site

that lead to the development of information skills. Lloyd [1] uses ‘site ontology’, as developed by Schatzki [13, p. 26], to analyze social life that is a social field where coexistence transpires through an ongoing web of interwoven practices and arrangements [13].

Thus, as Lloyd [1] suggests, practices are not individual activities but are formed, interwoven and sanctioned through an intra-group discursive process that may include educational, workplace or religious discourse. In this context, ‘information literacy’ is defined as the ability to define, locate, access and manage information; to use and present information ethically; to employ effective information seeking skills and information behaviors; and to think about information critically’ [1]. In particular, information literacy activities, described by Lloyd [1], include:

- *Influencing*: Advocacy or negotiation and sharing of collective organizational meaning - convincing, engaging, attempting to change colleagues opinions and practices
- *Information Work*: Work aimed at production and reproduction of collective organizational knowledge- description and/or demonstration of expert work practices for colleagues
- *Sharing*: Sharing professional/disciplinary expertise or knowledge/information on rules and ‘ways of working’
- *Coupling*: Facilitating awareness of where information/knowledge is and access strategies to get it, i.e., connecting people with information.

This paper takes a sociocultural approach and investigates the applicability of Lloyd’s [1] four activities of information literacy practice to multi-disciplinary team environments in local government in Australia. In addition, given Schatzki’s contention that practices are not only constituted by ‘how to do things’ and by rules, but also by teleo-affective features which structure emotions that are acceptable or prescribed for the participant in practice [14] the study also considers the emotional elements of knowledge sharing practices. Recently, Savolainen [15] found that positive emotions are more likely to be embedded in comments agreeing with ideas presented before while negative emotions are particularly characteristics of invective and provocation. The present study also investigates how emotion and affect are expressed in knowledge sharing activities and, more broadly, the practices of information literacy.

### 3 Methodology

This investigation focuses on two sustainability initiatives coordinated by local councils in Australia. Each initiative involved the engagement of multi-disciplinary project teams, which include members from disciplines as diverse as engineering, sustainability, and community services. In each, participants were identified by the project manager as champions of sustainability and invited to participate in the project.

The first initiative is concerned with intra-agency knowledge sharing and the second with inter-agency knowledge sharing. The first initiative is set in the context of a single local government authority (council), and is based on the practices of a multidisciplinary

project team formed by the council's management to seek to transform the policy, planning and work practices from a very traditional structure and approach to more sustainable, place-based work practices. The project team, known here as the Verdana Sustainability Project Team (VSPT), seeks to create a more collaborative, cooperative and sustainable approach to the organization's operations. The second initiative concerns a project team composed of representatives from several local government authorities (councils). This project is funded by a State government grant allocated to improve biodiversity, including management of both flora and fauna, along a river catchment corridor and is driven by a team known here as the Garamond River Biodiversity Project Team (GRBPT). The project is coordinated by a project manager/consultant who is hosted by Garamond Council and funded from the grant. The project manager's role is to co-ordinate representatives from the twelve participating councils to implement a range of measures to improve biodiversity across the river catchment area. Approval to use each project team's operations in this research was granted by the project managers of each of the initiatives and data were collected from each project in similar ways between June 2014 and May 2015. One researcher attended project meetings and audio-recording discussions and held one to one guided conversations based on an approach outlined by Siedman [16] with project team members describing a single experience of knowledge sharing drawn from the previous week. Altogether, eight meetings of the Verdana project and two of the Garamond project were attended, observed and recorded; and sixteen members of the Verdana team and five members of the Garamond team were engaged in individual guided conversations with the researcher.

All recorded meetings and conversations were transcribed verbatim and subsequently analyzed. In the first instance, examples of Lloyd's four information literacy activities were identified, using her indicators for each activity. Secondly, expressions of emotion were identified from the transcripts. Thirdly, the context for each of these expressions of emotion was identified and linked back to one of four of Lloyd's [1] information literacy activities (Table 1).

## 4 Findings

### 4.1 Primary Information Literacy Activities

The investigation found that all four of Lloyd's information literacy activities were described in some way by twenty of the twenty-one participants in their experiential accounts of knowledge sharing. One participant described only three of the four activities in their account.

The following table indicates the number of participants identifying each of the four activities as Primary (predominant) and Secondary (important but not the main activity) in their knowledge sharing practice. The practice of knowledge sharing, as presented by the majority of this study's participants in their description of a recent knowledge sharing experience, closely resembles what Lloyd [1] contends as information literacy practice, in that it comprises all four of her information literacy activities.

**Table 1.** Participant's primary and secondary sharing activities according to Lloyd's [1] information literacy framework activities.

	Influencing activity	Sharing activity	Information work activity	Coupling activity
Primary (predominant) activity	8	10	3	–
Secondary activity	6	5	6	4

Results of the study indicate that *Sharing* activity, that is, sharing professional and/or disciplinary expertise on rules and ways of working, was the most common primary activity. Ten out of twenty-one participants described a primary knowledge sharing activity that most closely resembled *Sharing*. The second most common activity was *Influencing*, that is, convincing, engaging or attempting to change colleagues opinions or practices. Eight out of twenty-one participants described a primary knowledge sharing activity that most closely resembled *Influencing* activity.

The less important activities in the study proved to be *Information Work* and *Coupling*, the former describing an activity aimed at producing or reproducing organizational knowledge and the latter an activity aimed at connecting people with material, non-human information objects such as documents or recorded data. Only three out of twenty-one described a primary knowledge sharing activity that most closely resembled *Information Work* as described by Lloyd [1]. No participants in the study described a primary knowledge sharing activity that resembled *Coupling*.

As outlined in Sect. 3, further analysis was undertaken to identify emotions or affect mentioned by the participants in their descriptions of their knowledge sharing experiences. Emotions associated with participants' primary knowledge sharing activity were recorded and categorized as positive, negative or 'none reported'. Emotions such as happiness, passion or inspiration were recorded as positive emotions while feelings of anger, frustration or sadness were considered negative emotions.

## 4.2 Emotions Associated with *Influencing*

Emotions associated with *Influencing* appeared to arise when participants felt they had either triumphed in some way, that is, were successful in their influencing activity, or when they felt they had not been heard, or had been ignored and did not achieve their desired result. All eight participants whose primary activity was categorized as *Influencing* described some form of emotion associated with their knowledge sharing experience. Six participants described positive emotions and two more negative emotions.

An example of a positive emotion associated with influencing activity was that of 'FG', who reported, '*...it was like we had been through a marathon and everyone went: Oh! That's fantastic!!! Everyone said: Oh FG, that's SO exciting and [Colleague x] was beaming his head off!*'. An example of a negative emotion associated with influencing was reported by 'JK', who felt she had failed to influence her colleagues as she had intended and her knowledge had not been validated. She reported, '*...I didn't get the*

level of response that I would have hoped' and 'I was disappointed with the whole conversation when I came out of the meeting'.

### 4.3 Emotions Associated with *Information Work*

All three participants whose primary activity was categorized as *Information Work* also described some form of emotion associated with their knowledge sharing experience. However, unlike with *Influencing*, all three described negative emotions.

For example, the participant identified as 'IJ' reported, '*There were feelings of frustration, there were feelings of anger, there were feelings to our manager like: Well, have you TOLD him about that? We needed confirmation that he, in discussions with the Director, had represented us and our staff concerns...and that he was aware of the personal and operational issues arising from his decision*'.

Likewise with 'AB' who, although satisfied with the overall outcome of the experience, expressed anger and frustration that attendees arrived late and did not demonstrate the appropriate level of engagement required from the organization. She reported, '*They were all twenty minutes late! ... that's where my agenda diverted because I had to quickly back-track to what we had already covered...and they just wanted to get some quick answers instead of going through the full agenda!*'

### 4.4 Emotions Associated with *Sharing*

Emotion was less likely to be expressed by those whose primary activity was categorized as *Sharing*. Indeed, five of the ten participants did not report any emotion or affect associated with their knowledge sharing experience.

Of the five participants describing some emotion with *Sharing* activity, three described a general, low-level contentment that the collaborative experience had been positive, while the other two described stronger emotions associated with responding to an external threat or demand. An example of the former was the participant identified as 'OP' who reported, '*...I was pleased and excited that they both understood the [traffic project] principles*' and '*I thought they were excited by what was being done and I was also relieved 'cause...I have got quite an ethic that, whatever I do, I like doing well*'.

While their primary activity was *Sharing*, the latter two participants described emotions related more to their ability to successfully convince, or influence, attendees to take a particular course of action due to an external threat or demand. For example, the participant identified as 'NO' described emotions in response to needing to compile a convincing response to an external organization seeking to build an unwelcome road in the area. He reported, '*... there was so much passion behind their questions ... like: 10,000 vehicles on that tiny road?...It's absolute madness!...*'.

### 4.5 Other Expressions of Emotion

A further finding was that negative emotions tended to arise if there was a general consensus that a particular activity was to be undertaken, but an attendee sought to engage in an alternate activity. For example, in the case of the participant identified here

as ‘CD’, feelings of frustration were expressed about a clash between organizational requirements and expression of expertise. ‘CD’ was seeking to focus discussion on organizational requirements, or undertaking *Information Work*, in a context where other staff attendees had expectations of undertaking *Sharing* activity. He reported, ‘*I am doubtful...I feel a bit scared that this whole sign-off process may not happen until December...I can’t break policies...I am not going to cut corners for that. Can’t be grey, it’s got to be black and white*’.

## 5 Discussion

The context of both case studies demonstrated that decision-makers in the local government areas were aware of the importance of having sustainability champions involved in the projects. All four of Lloyd’s information literacy activities: *Influencing*, *Information Work*, *Sharing*, and *Coupling* were found indicating that the ideals of working toward environmental sustainability [6, 7] were also being met. All but one participant engaged in all four activities, with two categories of activity being less prominent than the other two. *Coupling*, the activity of facilitating awareness of what information exists and how resources may be accessed, is the key feature of other studies concerned with the ways in which people learn and collaborate in multi-site studies. Yet here, it was not found to be the primary information activity of any of the participants and a secondary activity for only four.

Given the strength of the emphasis on the activity of *Sharing*, it was perhaps surprising that *Information Work*, the type of activity that leads to the development of collective organisational knowledge was also rarely found in the knowledge sharing practices of the participants in these two case studies. This does not mean that progress was not made towards the completion of the projects under discussion. Rather, it seems that the projects could be completed without the production of collective organisational knowledge. In other words, they required collaboration that included the validation or authorisation of the expertise of others, rather than the creation of a single organizational perspective on knowledge. This seems to suggest that the focus on the development of collective knowledge [6] where participants are each expected to adapt their own knowledge base to accommodate the expertise of others, may be inappropriate in this context and the expectation that individuals will validate the expertise of others so that it can be used alongside their own may be a more suitable model.

Without exception, participants who expressed negative emotions such as frustration or anger across the three primary activities of *Influencing*, *Sharing* and *Information Work* were all concerned about a failure to achieve professional or personal validation of their opinion or view, expertise or organization-related goal. This suggests that the dynamics of power are operating where participants feel their knowledge, expertise, status or authority are being questioned and challenged, or worse ignored.

Conversely, participants expressed positive emotions such as happiness and satisfaction when their *Influencing*, *Sharing* and *Information Work* activities were validated, accepted and integrated into their team’s collaborative process. In these collaborative processes, it appears that it was this information activity of *Sharing* that was the almost taken for granted activity, the one that participants expected that they would be taking

part in when they were nominated to join the multi-disciplinary teams. Negative emotions, again, would signal issues arising from the collaborative process of completing the project.

Expressions of emotion, then, can be seen not only as expressions of personal feelings but also as expressions of the result of power plays within the collaborative process, instances where a participant felt that insufficient attention had been paid to his or her potential contribution to the collaborative endeavour.

## 6 Conclusion

Practice theory has proved a useful approach to this investigation in that it acknowledges the central importance of context or place in social life. The emphasis, in practice theory, on 'doings and sayings and tasks' [10, p. 73], as well as teleo-affective structures, is also appropriate for investigating activities and practices such as knowledge sharing, information literacy, interactions between inter-disciplinary team members and associated emotions.

Lloyd's [1] sociocultural approach to information literacy and her associated activity framework has also proved a useful and nuanced lens through which to analyze the specific activities of collaborative, multi-disciplinary teams, involved in place-based planning.

In a team made up of champions of sustainability, it appears that Lloyd's activity category of *Sharing* becomes the norm, underpinned by the expectation that the expertise of individual members will be validated by the group and incorporated into the collaborative endeavor. The normative nature of this activity is highlighted when expressions of emotion are taken into account. When *Sharing* is happening - the activity that people have agreed to take part in - there is little or no expression of emotion. Rather, emotions are experienced when the norm is not being followed, when participants believe that their contribution is not being validated, in which case they move to *Influencing* or, when they sense that another participant has moved from the normative behavior of *Sharing* to either *Influencing* or to *Information Work*.

These two insights into knowledge sharing in two multi-disciplinary teams of sustainability champions suggest the need for further research in teams engaged in sustainable development in other settings, to explore their practices and investigate the ways in which expressions of emotion shed light on those practices.

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