Understanding Information Culture: Conceptual and Implementation Issues

Gillian Oliver *

Caulfield School of Information Technology
Monash University, Australia
E-mail: Gillian.oliver@monash.edu

ABSTRACT

Information culture is a concept with multiple and sometimes conflicting definitions. Nevertheless at a time when social and cognitive aspects of information and communication systems are recognized as being of similar significance as the technological functionality, the concept of information culture is demonstrating considerable value. This paper explains the concept of information culture and considers its value from two main perspectives: firstly as providing an analytical tool, and secondly as a means of providing practitioners with insight and sensitivity to the organisational contexts of their workplaces.

Keywords: Information culture, organisational culture, information management, archival science, records management

1. INTRODUCTION

The concept of information culture has been explored by researchers in Europe, North America, Latin America, and Australasia since the late twentieth century. It has been defined in different, and sometimes contradictory ways, and applied to a variety of organizational settings, utilizing perspectives from different but cognate information professionals. The purpose of this paper is to provide an introduction to the concept, to present and explore one particular interpretation of the concept in some depth. It will be argued that

this particular view provides considerable potential benefit for practitioners, and facilitates insight into the often very complex and challenging social and cognitive issues that are faced when attempting to lead and implement information management initiatives and strategies.

Accordingly, the paper begins by clarifying the different definitions, and then introduces the three level pyramid model of information culture. Research underway to develop a methodology to facilitate the application of the model as an analytical tool is described, as well as challenges faced in introducing ethnographic insight to practitioners more used to working with checklists and simplistic measures. The paper concludes by summarizing the implications for practice of information culture, and provides suggestions for further research.

2. BACKGROUND

Information culture is a relatively recent concept, but nevertheless has attracted research interest from around the world. The first mention of information culture is generally credited to a researcher in Finland, Mariam Ginman. Ginman (1993) expressed the concept of information culture as one which was open to change and innovation – in particular, where management were responsive to information about the external environment. In other words, an information culture was presented as a necessary and desirable state if the organization was to be successful and competitive. Ginman's work prompted much further study, and continues to be the basis for research (in particular see writings by Gunilla Widén and colleagues, for example Hansen & Widén, 2016; Widén & Hansen, 2012; Widén-Wulff, 2000). However, this perspective on information culture has been broadened by other researchers (notably Oliver & Foscarini, 2014) to include all cultural settings – i.e. those in which information may not be well managed as well as those very positive situations where efficient and effective systems and processes have been implemented successfully and are being used appropriately by all stakeholders.

To summarise, there are two clusters of definitions of information culture reflected in the literature. One cluster considers information culture as "a culture of information," an environment in which information is well managed and used effectively and efficiently. The other cluster considers the concept as reflecting cultural values, attitudes, and behaviours relating to information, whether they be positive or negative, effective or ineffective. It is this latter, more holistic, and comprehensive articulation of information culture that is the subject of this paper. Accordingly, all organisations and communities, wherever in the world they are located, will have an information culture. Furthermore, the more complex the entity, the more likely it is to be characterized by multiple information cultures. In settings such as universities for instance, the multitude of different disciplinary backgrounds not to mention the variety of occupational groups represented, coupled with a high degree of internationalism among academic staff in particular, combine to make a diverse cocktail of cultural characteristics.

In recordkeeping (that is, activities encompassing the management of both archival and shorter-term current records), this conception of information culture has been recognized as a critical feature that needs to be taken into account when developing and implementing recordkeeping strategies. Evidence of this recognition is presented by the fact that information culture is one of three facets for analysis identified in recordkeeping informatics, the new approach to records management which has been developed by Australasian writers (see Upward, Reed, Oliver, & Evans, 2013 for an outline of the features of recordkeeping informatics and the motivators for its development).

However, this conceptualization of information culture is also applicable to information and data being managed for purposes other than accountability. The dimensions of information culture can be tailored to focus on different environments and settings or they can be used to provide a broad scope for analysis for a holistic view of the issues and challenges relating to information and data management in organizational or community contexts.

Before considering information culture in more detail, it is very important to emphasise the multi-dimensional nature of culture as a construct. Attempts to over-simplify culture have frequently occurred, particularly in the context of organisational culture. These over-simplifications in the English speaking world can be traced back to populist management theory, in par-

ticular Thomas Peters and Richard Waterman's best-seller In search of excellence (1985). Peters and Waterman's search for excellence attributed a critical role in the success of companies to organisational culture, and suggested that unsuccessful organisations simply needed to change their cultures. However, the complexity of culture is such that it cannot simply be changed; the influences of fundamental values and beliefs have to be recognised. Scholarly research has assisted in expanding that simplistic view, and Geert Hofstede's research in particular has contributed to awareness of multiple layers or levels of cultural influences (Hofstede, 2001). In organisational settings for example, three layers have been identified as significant: national, occupational, and corporate. The corporate culture layer is the most superficial, and the most susceptible to change. This could be affected for instance by a change in leadership which might then lead to the support for different management styles. Or there may be a change in visual image, which might reflect a desired new image

or strategic direction. However, it is essential to recognise the important influences exerted by the layers of culture which reflect people's socialisation, upbringing, education, and career choices.

Similarly, information culture can be regarded as a multi-level construct. Application of a three-level framework for analysis not only helps identify the multiplicity of influences at play but also assists in distinguishing those factors which are superficial and particularly receptive to change from the much more deep-seated and change-resistant values.

2.1. A Multi-Level View of Information Culture

A comprehensive three level pyramid model of information culture has been developed by Oliver and Foscarini (2014) who use this to provide a framework for discussion of issues relating to information culture considered specifically from records management perspectives. The model is shown in Figure 1 below:
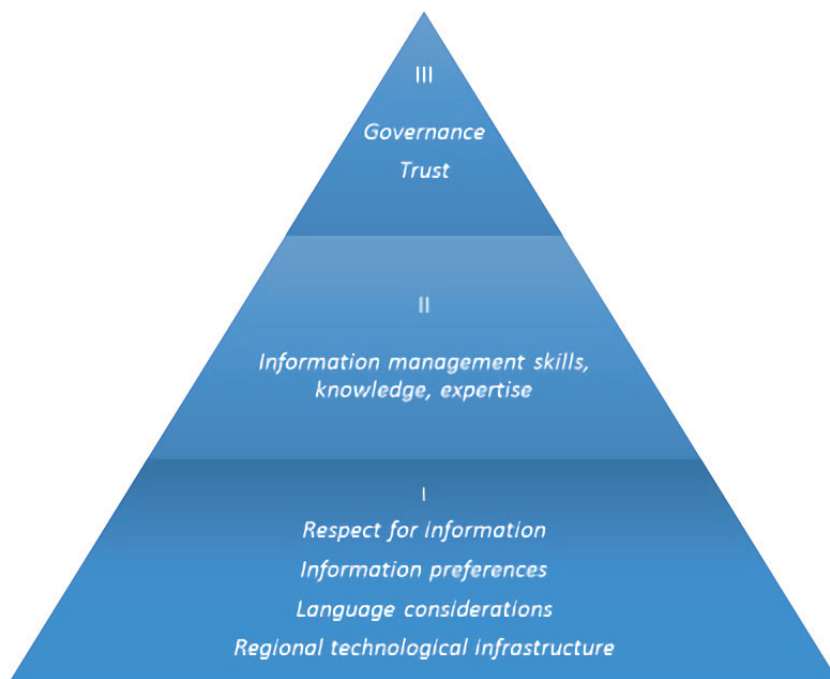

Fig. 1 The information culture pyramid model

The emphasis in this model is not on what information is created, available, and used. Instead, the focus is on ways in which people behave, and their inherent values and attitudes which may influence the ways in which information is created and managed. The levels in the model reflect the ease or possibility to which factors can be changed or modified.

2.1.1 Level One: The Base of the Pyramid

The base of the pyramid, level one, encompasses those factors which are simultaneously very influential and also very difficult to modify. They can be particularly difficult to identify, but if there is not full awareness and understanding of what is happening at this fundamental level, there is no real hope of being able to affect change or that new strategies implemented will meet desired outcomes.

The first factor noted at the base of the pyramid relates to the respect, or value, accorded to information. This can be unpacked to differentiate between awareness of the need to manage information for various distinct purposes. These different purposes should include the need to manage information as evidence, for accountability purposes (the specialist domain for archivists and records managers) as well as for the purpose of knowledge creation and awareness (the specialist domain for librarians). Similarly, the focus could be on data management, again acknowledging the different purposes. Choices made here will be dependent on the environment under scrutiny.

Distinguishing the different purposes, though, is essential because there is likely to be significant variation in understanding and readiness to carry out procedures. For instance, people in diverse settings can behave very differently in response to records management requirements. International and local standards may be developed, but the effectiveness of those standards and associated policies and procedures will be influenced by people's values. In New Zealand, doctoral research investigating user intentions to use an electronic recordkeeping system determined that users' perceived value of records was a significant factor, despite the fact that recordkeeping obligations were legislatively required in the public sector (Lewellen, 2015). Much more empirical data is required before any attempts at prediction can be made as to what values will be held by which people in which roles.

The second factor, information preferences, indicated at level one of the pyramid, is similarly complex. Preferences can be considered in three broad categories, but all three categories may be associated with national cultural differences, although further research is required to confirm or refute this assumption.

The first category of information preferences encompasses differences in terms of need for explicit versus implicit information in order to communicate successfully. Previous research (Hall, 1976) has conceptualised communication styles on a continuum of high to low context. In high context communication, much information is implicit in pictures or images, whereas in low context communication greater importance is accorded to the message being made explicit in text. These communication styles have been associated with national cultural differences as reflected by ranking in terms of individualism/collectivism (Hofstede, 2001). South Korea's ranking on this dimension is at the collectivist end, whereas Australia and other Anglophone countries are at the other extreme. This indicates the potential for differences in terms of, for instance, what information is created and what media are selected and consulted.

The second category of information preferences has also been linked to national differences as reflected by high and low context cultures. People from low context cultures (such as Australia) have been characterised as being more likely to

> …seek[ ] information about decisions and deals from a research base. Whilst they will listen to the views of colleagues or relatives, they place much emphasis on the use of reading, reports, data-bases and information sources. (Morden, 1999, p. 20)

The inference is that people from high context cultures such as South Korea may be more likely to seek information in the first instance from trusted individuals in their social group, rather than opting first for text resources. Once again, this factor will influence tendencies to create, use, and maintain textual documents.

The third category of information preferences relates to people's willingness to share information with others and furthermore the level of granularity to which it is felt appropriate to share (for example, only with colleagues in the same team or workgroup). This feature has also been linked to differences in terms

of positioning of national cultures on the individualism/collectivism scale. According to Geert Hofstede, work organisations in collectivist countries (such as South Korea) are more likely to have a view of sharing information as an attribute of organisational success (Hofstede, 2001, p. 227) in contrast with those in individualist countries where withholding information may be viewed as an attribute of organisational success (p. 244). The consequences of these contrasting beliefs have the potential to profoundly influence the success of any organisational wide information management systems that are implemented. It cannot be assumed that because a system or strategy has been successfully implemented in one cultural setting that it will be similarly successful in another.

The remaining two factors at level one relate to a supranational cultural layer which may cross national boundaries (Karahanna et al., 2005). Issues relating to language may be very important but overlooked when considering the management of information. For instance, where there is the need to use multiple languages and particularly where different character sets are involved, this may impact on the choices made for the use of digital file formats. What works well for one character set may not have the functionality required for another character set. Similarly, legislation, policies, and resources available as reflected in the nature of the technological infrastructure available in geographic regions may impose constraints on what information systems can achieve or facilitate the access, use, and exchange of information beyond and between entities.

2.1.2 Level Two: The Middle of the Pyramid

This middle layer of information culture is concerned with the skills, knowledge, and experience people have in relation to managing information and/or data, regardless of the purpose for which the information or data needs to be managed (as evidence, for accountability, or for knowledge or promoting awareness). There are two perspectives to be considered here, literacies and knowledge of relevant societal requirements.

Information and digital literacy skills are a vitally important area in today's environment where the technologies to access, create, use, and disseminate information are at everyone's fingertips, without the need for intermediation by an information professional (ar-

chivist, records manager, or librarian). From the first mention of information literacy in the 1970's (Zurkowski, 1974) to the present day the interest and involvement of information and library science academics and practitioners in the concept has grown exponentially. A simple search for the term "information literacy" in Google Scholar at the time of writing resulted in a list of almost 130,000 publications. Given this level of interest and involvement it is not surprising to find the meaning of the concept is subject to debate and multiple understandings abound. Three distinct discourses on information literacy have been identified, namely:

- The acquisition of information related skills
- The cultivation of habits of mind, and
- Engagement in information-rich social practices (Addison & Meyers, 2013).

A significant component of the information literacy literature is concerned with defining multiple literacies, all of which are related to information of different types (for instance, digital literacy, new literacies, visual literacy, etc.) and their inter-relationships. It is noticeable that researchers and commentators appear to be strongly motivated by a need to make sense of information literacy in the fluid and dynamic nature of the social media environment, and may attempt to provide a holistic view of information literacy today.

For example, the literacies that relate to digital technologies have been described as "the abilities a person or social group draws upon when interacting with digital technologies to derive or produce meaning, and the social, learning and work-related practices that these abilities are applied to" (Stordy, 2015). This definition is broad enough to encompass interactions with information of all types and purposes, for instance the online recordkeeping systems that citizens may have to use in order to transact business with governments, as well as the use of personal devices such as mobile phones to create and keep digital records.

Similarly, Mackey and Jacobson propose information literacy as a metaliteracy (2011), thus encompassing all related literacies. They identify seven areas of practice, namely:

- Understanding formats and delivery modes
- Evaluating user feedback
- Creating context for user-generated information
- Evaluating dynamic content
- Producing original content in multiple media for-

mats
- Understanding personal privacy, information ethics, and intellectual property issues
- Sharing information in participatory environments

The need for information and digital literacy, and the complexity of the knowledge and skills entailed, continue to increase exponentially in tandem with the ongoing development of new technologies, and the deployment of those technologies in everyday life. As a paradox, the greater the emphasis on improving the ease of user interactions with technology, the more difficult it is to highlight skill deficiencies, and thus understanding the consequences of online behaviours, decisions, and choices made becomes obscured. In workplace situations this paradox may be manifested in a seeming fluency of technology usage, but with little or no understanding of file formats and storage options, which means that decisions are made without cognizance of the implications for the ongoing sustainability of information, or the risks relating to unauthorized access. At the most basic levels, information and digital literacy skills needed in most working environments will include the ability to deal with information overload, awareness of issues relating to open source as opposed to proprietary systems, different file formats, and cloud computing, as well as the very specific training needs for particular systems.

The second perspective to be taken into account at this middle level of the information culture framework has already been alluded to in Mackey and Jacobsen's articulation of a metaliteracy, but it is worth highlighting separately because of its importance. People need to know and understand the laws, standards, and norms applicable in the environments in which they work and live, and indeed in those other jurisdictions that they may interact with. At a minimum, these laws, standards, and norms will relate to privacy, the protection of personal information, access to official information, and intellectual property concerns. It is not only compliance to regulatory requirements that have to be addressed, but also the actual or potential ethical implications and dilemmas associated with them.

In summary, the knowledge, skills, and expertise people need in relation to information management requirements can be established by assessment of their current competencies. However, attempting to develop training programmes to address the gaps identified is doomed to failure if this is done without taking into account the features identified at level one. Training also needs to reflect the unique workplace realities characteristic of level three (discussed below). For this reason, the knowledge, skills, and expertise that people need in relation to information is positioned in the middle layer of the information culture model.

2.1.3 Level Three: The Tip of the Pyramid

The positioning of the two factors at level three, the top of the pyramid, reflect the fact that in contrast to those features identified at the base, these are the ones most open to change. However, as pointed out above in relation to training needs, they are most susceptible to change if they are approached with good understanding of the characteristics of the features identified at levels one and two.

Of critical importance to information management in organisations are the decisions made about information governance. At level one, reference was made to the need for awareness of constraints and opportunities forwarded by the technological infrastructure of the country or geographic region. At level three, the focus is on the local environment, thus includes corporate information technology governance – "the systems by which current and future use of IT is directed and controlled" (International Organization for Standardization, 2008). This includes policies and procedures and specifications for the overall information architecture as well as security considerations. Decisions relating to corporate IT governance are likely to be reflected in the IT department's policies and procedures, whether they are documented or not. For instance, they might include limits on the size of email in-boxes or shared file repositories. If these decisions are made solely from an information technology perspective their rationale is likely to focus on achieving IT goals such as improved processing and response times. However, it is important that they represent information management interests too. If the imposition of size limits results in bulk deletion of emails and documents in order for people to continue working, then there may very well be adverse implications for recordkeeping and archival objectives.

The other factor identified at level three relates to inter-personal relationships between those individuals responsible for providing information management

services and their target users in workplaces or indeed other social settings. If the person in the information management role is not trusted, then people are not likely to be fully cooperative if they perceive a risk of losing information that is important to them. For knowledge workers in particular, information is likely to provide the bedrock of their work. Without sufficient information at hand or the ability to access information as and when required, achieving work goals may become much more unlikely and failure becomes a real possibility. Thus circumventing or even sabotaging local information management systems may be perceived as being essential to meet one's work obligations and the imperative to do so cannot be underestimated. Recognising and addressing this level three factor requires critical self-reflection on the part of the information professional and readiness to listen and take user concerns seriously.

3. FROM THEORY INTO PRACTICE

The preceding section provided an outline of the three level model developed to provide a framework or lens for the analysis of information culture. The factors at each level have been described as succinctly as possible, but even within this summarized approach it should be possible to get a sense of the complexity of the information culture concept.

Communicating the concept to practitioners in such a way that does not intimidate but without over-simplifying has been a major challenge. In 2015, the International Council on Archives (ICA) provided funding to support the development of a methodology to enable the application of the three level pyramid model as a practical tool. Archival authorities worldwide are concerned with the development of standards and guidelines to ensure that digital information required for recordkeeping (accountability) purposes will be available and can be accessed into the future. In the analogue world, physical documents needed to be or-

ganized and managed, but had the potential to survive benign neglect. In the digital environment, though the ongoing survival of information cannot be assumed, active and purposeful intervention is needed and consequently archival authorities are concerned with establishing standards and encouraging or requiring their uptake by organisations in their jurisdictions. A crucial factor in the uptake of standards rests with individuals and the ways in which they behave and interact with information. So the original motivator for ICA to support development of an information culture methodology was the need to help provide archival authorities with insight into the cultural dimensions that have to be taken into account when developing standards and guidelines, rather than assuming that one size would indeed fit all.

The initial phase of the project involved working with four archival authorities located in different parts of the world, at very different stages of development with regard to transitioning from a paper to digital environment. At a very early stage it became apparent that the real challenge lay not so much in operationalizing the information culture model, its levels, and associated features, but rather in developing a tool that could easily be used by individuals with vastly different educational backgrounds, skillsets and knowledge, and experience of digital technologies.

The foundational elements of the ICA toolkit that have been developed to date are geared towards guiding practitioners through the process of collecting and analyzing data about information working practices from people who are members of the particular unit of analysis (organization, a sub-part of the organization such as a team, or a community) and then using those findings to develop an information profile. The ICA toolkit is intended to be internationally applicable, and an important consideration is therefore making it available in multiple languages. It is currently available in five languages: English, Korean, French, Spanish, and Portuguese. [1]

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[1] All versions of the ICA toolkit are freely available for access on figshare, and the Korean translation can be downloaded from https://figshare.com/s/02f-6bc4a7d3493230a6a.

4. CONCLUSIONS

The concept of information culture has been discussed and debated for a number of decades. The professional archival community has taken on board the three level model of information culture which recognizes that information cultures are not simply characteristic of those environments which have special expertise in managing information for competitive advantage. The ICA is supporting the development of a toolkit to assist archival science practitioners in gaining the rich insight afforded by the application of the information culture concept. However, there are still challenges faced in helping those responsible for managing records in current environments to adopt a much more open and expansive approach to interacting with the users of their services, and particularly to accept the utility of qualitative data to enhance their understanding of their work environments. Also, it is particularly important to emphasise and to explore the applicability of the information culture concept to information and data that is being managed for purposes other than accountability. Finally, existing research has been almost exclusively in workplace contexts. The concept is equally applicable to other types of communities, but much more investigation is needed to determine whether the specific factors that have been identified in workplace contexts are equally applicable in other settings. Initial consideration suggests that the middle layer of the pyramid relating to knowledge, skills, and expertise may prove to be of greater significance in community settings, but this remains unconfirmed.

To demonstrate the applicability of the information culture concept in diverse settings and to further develop its features researchers and practitioners are encouraged to test the ICA toolkit components. It is only by building an international community for research and practice that the maximum value will be derived from efforts to date.

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