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Between disciplines and experience: Understanding Big Data as “monuments of cyberspace”

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What do we see when we look at *data*? This recurrent question when confronted to Big Data, is largely answered by two different disciplinary visions dominating the debate during the last years, concluding that data are *raw* and Big Data is a *hubris*. While disciplines still treat just a part of them, we experience a wider and wider spreading of Big Data. The notion of “monuments of cyberspace” discussed here helps understand their peculiar nature and delimit related issues of method, of wealth and of experience.

In Knowledge Management, data are traditionally seen as a resource, a mine of information to be processed into knowledge. This view, dominant in the realm of the knowledge economy, conceptualised data according to the specific objective of the production of knowledge that is useful for the manager. In this context, however, data are defined in a negative way, being just “*unstructured*” (Gandomi and Haider, 2015; Bellinger et al., 2004; Earl, 2001):

Data is raw.. It simply exists and has no significance beyond its existence (in and of itself). It can exist in any form, usable or not. It does not have meaning of itself (Bellinger et al., 2004).

More recently, along with the expansion of Big Data, researchers examining large amounts of data coming from digital platforms have been engaged in a process of identifying their meaning. Thus, we have entered a realm where data are to be understood as such and not only as a means to achieve a goal, a part of a procedure having an objective of production.

Yet, most research methodologies still describe data as an effect of the very action of the researcher. For instance, in quantitative research (Yin, 2003), data are collected on the basis of a research question, usually resulting from the identification of a gap in the literature. Hence, the structure of the data to be collected is normally designed by the researcher. Consequently, from the perspective of the research community, Big Data have been characterised as an “*hubris*”, as they “*are not the output of instruments designed to produce valid and reliable data amenable for scientific analysis*” (Lazer et al., 2014).

Overall, it seems that the Knowledge Management approach, admitting that data exists beyond the action of the researcher appears to be more relevant to Big Data than the methodological approaches considering data as the result of a researcher’s action. Still, management is not the only discipline that seeks value in them. Moreover, Big Data as a research object are yet illy defined. How to qualify their “raw” and “unstructure” nature ?

A unified view

To clarify the nature of contemporary data and, thus, the corresponding *data situations* that scholars and practitioners are called to address, this paper proposes the distinction of two conceptual levels: (1) resource versus result and (2) action versus research.

Thus, the problem of data can be analysed as shown in the Table 1.

	Action	Research
Resource	Knowledge Management	<i>Unknown 1</i>
Result	<i>Unknown 2</i>	Methodology

Table 1: Data situations.

As indicated by Table 1, we are today confronted with two new situations, two situations of unknown in relation to the well-known disciplinary views. The first situation concerns the condition where data are seen as resource for research, yet they do not originate from the action of the researcher and where their relevance to a research domain (research question or even related discipline) remain unknown. The second condition is when data are the result of action (of a system or a collectivity) but their usefulness remains to be discovered (we don’t know what to do with them. . .).

Treating the unknown data situations as monuments

To treat the unknown data situations we propose that an investigation of the experience of data generation is a prerequisite. We propose to treat data as monuments (e.g., similarly to the study of ancient manuscripts), positioning them in a sequence, in a sort of a chronicle, portraying this way the evolution and the ruptures in the process of their creation.

Thus, we the intrinsic mode of knowledge edification in digital settings can be described as “monuments of cyberspace” (Chrysos, 2016). More specifically, each digital interaction is not only limited to an exchange of information, a transaction, nor is it always the effect of a mobilisation of already existent relations. A digital interaction is always inscribed on the technical substratum, the cyberspace. A common place is thus developed during an event of digital interaction. A monument of cyberspace can be visited long after its creation by unexpected visitors seeing the technical substratum as well as the traces left by the interaction in it.

Implications

The configuration of the four different data situations enables a better understanding of the unknown situations and opens the way for more relevant methods of data analysis. Moreover, the distinction of

two contemporary situations of unknown helps avoid misunderstandings among disciplines enabling the identification of the specific data situation under study and mapping the field of research of this new phenomenon.

In addition, seeing data as monuments of cyberspace helps identify the dimensions to explore in the unknown situations. In the condition where data are the resource for research, the common place of their generation has to be further explored, as well as the chronicle of the interactions that occurred in it. In the condition where data are the result of an action, beyond its objective, the means of the action and specifically the design of the technical substratum has to be studied from a new perspective: the one of enabling new types of interaction, unforeseen during the initial design process of the setting used.

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