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Platform and Collective Intelligence

Digital Ecosystem of Organizations

Antoine Henry

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Fabrice Papy

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Introduction

The scientific work and research that concerns organizations has grown considerably in recent years. This is due to the polarization of human activities within structures whose projects and vocations are extremely diverse. It is then as many pluriverses and plurivocal processes that coexist, function and interact locally, globally – and even *glocally* – in the multitude of these existing organizations and social structures whose legal and managerial form often remains conventional (Svensson 2001; Batazzi-Alexis 2002; Eberhard 2013; Koop 2018). Moreover, this polarization in organizations has spread with the unifying framework represented by the “information society” (IS), which has been further aggravated by the intensification of the economic dimension in contemporary societies (Ahrne and Brunsson 2005). This recent context has exacerbated the place of organizations, identified as atomic entities through which, and within which, a wide range of the multiplicity of human activities is expressed. The complexity of these agencies, which are being developed on a planetary scale with the explosion of international economic transactions, explains why the organizations are studied by a wide variety of disciplines and scientific fields that are often complementary: management sciences, economics, information technology, law, commerce, sociology, anthropology, social psychology, ethnology, and information and communication sciences (Geslin 2002; Bernard 2004).

It is clear that today’s organizations, which have risen to the new “information society”, much to the delight of political and economic forces,

bear witness to a new complexity engendered by a heterogeneous set of structures whose boundaries have become more flexible and whose communication processes have become intertwined. These structures increasingly interact through an increase in self-emerging cross-cutting collaborative activities and processes (El Amrani 2008). This complexity surpasses the binary categorization used until recently, distinguishing according to a trivial typology between private and public entities: the former are generally associated with the world of business, trade and industry, and the latter with the institutional and governmental world in its national or international declinations (such as the UN, UNESCO, ISO and WHO) (Bouillon 2005; Bernard 2016), both evolving until now in an implicitly recognized territorialization.

The massive penetration of information and communication technologies (ICTs) in all spheres of human activities and the unprecedented expansion of digitally mediated communications have completely reshuffled the maps and functional boundaries of these basic types of organizations built on a common hierarchical decision-making model. An unprecedented complexity has emerged, which is driven by the immediate concentric and/or eccentric influences propagated by the dissemination and sharing of natively digital information. Concentric influences emanate from outside the organization and intrude, either voluntarily or accidentally, into the internal processes of organizations outside the usual and regulated channels of information dissemination. Eccentric influences, on the other hand, are those that an organization exerts on the outside, voluntarily or accidentally, through the same technological channels for disseminating and sharing information, as well as outside the usual and regulated circuits defined by the organization. This sudden porosity – of an informational and communicational nature – of the clear boundary that recently separated the inside of an organization from the outside, has come about with the massive adoption and exploitation of these computer technologies specific to the Internet, the Web of Documents and the Social Web (Navarro 2001; Gardey 2003; Greenan and Mairesse 2006; Hochereau 2006; Walkowiak 2006).

The technological tools, inspired by the Internet and the early Web (Web 1.0), which became widespread in all organizations, from the smallest to the largest multinationals, brought much more than operational comfort to

organizations. Previously, their decision-makers were worried about the inevitable time to upgrade their IT systems, given the impact in terms of cost, reorganization of practices and training of staff, and were not at ease with the procedures for re-computing, upsizing or migrating their information systems (Botta-Genoulaz 2007; Legrenzi 2015; Besson 2016).

The widespread use of Web technologies, supported by the World Wide Web Consortium and its powerful members, has definitively dispelled doubts about the operational efficiency, robustness, scalability and adaptability of these digital technologies (Papy and Sansonetti 2014). Major technological achievements such as YouTube, Amazon, Instagram, Twitter and Facebook, in their respective economic registers, retain their leadership role and, through their technological and economic performance, support the technological architectures on which their success was built. These extraordinary digital devices, via their platform marketplace with a global audience, drive a large part of the world's economic activities and are also the broadcasters/recipients of a considerable proportion of online digital traffic. These spectacular technological and economic successes are now inspiring the most recent platforming projects, to which all private and public organizations are committed, whatever their scope of action. It is still the same digital technologies that are being mobilized and acclaimed, contributing to the increase, if there was still a need, of their trust capital.

Thus, the performative efficiency of Web technologies and their rapid acceptability, both by the technical teams that implement them and by the users who have to integrate them into their work processes, have determined the decision-makers and information technology departments of these organizations to adopt these technologies, which have been instrumental for two decades now in the Web of Documents, the Web of Data, the Semantic Web, the Social Web and the Commercial Web.

The deployment of Web technologies within organizations is now confirmed and applies, through specific applications, to all processes essential to the operation of organizations: administrative, accounting, logistics, commercial and industrial. However, this deployment is not insignificant (Hénnocque 2002; Rifkin 2002; Balpe *et al.* 2003; Berry 2008; Doueïhi 2008). Web technologies, heir to the conceptual and technical principles of the Internet, convey all the meshing and networking mechanisms for which the

TCP-IP communication protocol and its associated historical services (such as RCP, RCMD, FTP, SMTP, NNTP, WAIS, GOPHER and HTTP) have been developed. The social, participative and community evolution that was imposed with the first peer-to-peer distributed applications has continued to grow with digital social networks where hundreds of millions of users around the world interact (De Gail 2013). The reticular logics of communication and the diffusion of information have propagated in organizations at the same speed as the deployment of software environments that have switched infocenters and groupware to the intranet, cloud computing and Software as a Service (SaaS) to reach its most sophisticated expression: digital platforming.

Computer applications using Web technologies are now homogenizing infocommunication practices regardless of the size and nature of the organization: multinational, government, institution, NGO, association, family business or craftsman. The evolution of digital practices and uses that have spread massively with mobile telephony has finished consuming the informational and communicational porosity of organizations. The perpetual rearrangement of communication, sharing and dissemination of information within organizations, towards the outside world and according to hybrid internal/external formats, are reconstituting virtual communities of interests or practices that bring together users who are freeing themselves from traditional and established hierarchical logics (Henry 2019a).

Chapter 1 proposes to return to the inclusion of organizations within this conception of the “information society” by contextualizing notions related to the digital world, organizations and relations with users. We shall return more particularly to the question of the inherent temporality of digital technology, and then focus on the mediation provided by technical devices, before illustrating the transformations brought about by digital technology.

Chapter 2 explores the issue of the platform organization in order to position different notions (such as the network organization) to deal with the platformization of organizations and the particular case of the State as a platform.

Chapter 3 is devoted more specifically to the formation of the sociotechnical instruction of collective intelligence. To this end, we will study the way in which the social is instrumented by the digital, as well as the vision carried by both the sociotechnical and the operational model of the transformation of the organization linked to collective intelligence.

Finally, we will come to the notion of “organizational experience” by focusing, in Chapter 4, on the capacity of actors to transform their organization by mobilizing the concepts explored in the previous chapters.

Organizations and Digital Technology

Within contemporary society, information and communication technologies (ICTs) are the bearers of the “imaginary of a technical action initiating new social projects” (Papy 2009, p. 15).

In recent years, public and private organizations¹ have been receptive to this discourse and have equipped themselves with digital technical devices that respond to the new forms of modernity brought about by ICT and the “information society” (IS).

In order to achieve the ambition of this book, it seems useful to present the current context of Western organizations and more particularly that inherent to the information society.

¹ Organization is broadly understood as “a set of social, legal, technical, cultural, economic and ethical arrangements designed to enable socially organized actions to unfold in time and space to achieve results” (Lorino 2005, p. 55). Organization is then a process that is built through the actions of its members or communities of practice and that Bouillon calls “organization-process” (Bouillon 2015). From this point on, we are in an information approach of the organization by accepting the fact that “an organizational process thus implies a flow of information that makes it possible to articulate material flows and activity flows within the organization” and that “the logic of information processing influences, indeed largely determines, that of activities, since the physical, material and social organization must become as ‘fluid’ and ‘agile’ as the flow of information that accompanies the activity flows” (Bouillon 2015, p. 93). The organization here allows for the contextualization of action, the creation of meaning and values for its members.