

Studying the Interaction of the Epistemology in e-Government, Organization Studies and Information Systems

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Abstract. Although there are significant differences between Organization Studies, Information Systems and e-Government, certain boundaries between them have started to dissolve in the light of recent developments. Even though influences can be traced among all three concerning research results, epistemological interaction could produce interesting outcomes. In this paper we propose such an interaction in epistemology, and particularly in methods following the interpretive tradition, which has been notably underused. We present a brief review of literature in e-Government and after sketching its route, we propose ways to integrate in it perceptions and methods from Organization Studies and Information Systems.

Keywords: e-Government, epistemology, integrative approach, interpretivism, positivism.

1 Introduction

The last decades have introduced the discipline of e-Government as a central area of concern in matters of innovative public administration. E-Government's focus is strategically placed on both the fields of governmental organizations and of information systems technologies, without attributing primacy of one over the other. After almost three decades of evolution we feel that e-Government has mainly acknowledged the importance of the results of research in organization studies (OS) and information systems (IS), but it has not yet fully incorporated the epistemological insights of these two fields, whether they were developed independently or in conjunction to each other.

Although there are significant differences, in both scope and method, between OS and IS on the one hand and e-Government on the other, certain boundaries between them have started to dissolve in the light of recent developments in the three disciplines. These three disciplines form a triangle of interaction with each one affecting the other two. The interaction of OS and IS, and the influence between them has already been adequately studied [34]. According to Orlikowski and Barley, the fields of OS and IS have many points of intersection and the researcher who enmeshes himself in hybrid research in these points faces a great potential for the discovery of interesting and thought-provoking results. Nevertheless, they argue that the cross-fertilization of ideas

in the two fields has not been symmetrical, with the field of OS being more influential to IS than the reverse [34 p. 146]. In this work we focus mainly on the interaction between OS and e-Government and IS and e-Government. We posit that e-Government research has mainly been influenced by research either from OS or from IS, but not simultaneously from both. We feel that the consideration of insights simultaneously from both OS and IS will enable e-Government scholars to be mindful of organizational as well as of technological particularities in their research, without favoring the former over the latter. Moreover, e-Government scholars seem to favor positivistic methods of research while a slim minority of them employs interpretive tools.

In this paper, we provide an account of our conceptualization of how e-Government researchers could benefit from adopting the epistemological positions that have driven the research efforts of their colleagues in OS and IS, and especially the ones that belong to the interpretive school of thought. By incorporating a more integrative approach (both epistemologically and methodologically) we feel that e-Government stakeholders will be able to explore interesting fields of knowledge that until now have been either underdeveloped or unexplored. The consequences of this endeavor will reflect on both researchers and practitioners. The first having access to more analytical tools and the second being provided with more inclusive implementation tools for e-Government information systems.

Employing more inclusive analysis and implementing more integrative information systems, that take into consideration apart from technical, social issues (such as citizen participation and knowledge diffusion) too, is expected to lead to the support of more direct, efficient and practically applicable implementations of e-Democracy.

The rest of the paper is structured as follows: Chapter 2 presents an integrative approach on the debate of positivism versus interpretivism and ties it with the concern of cross-fertilization of methods and ideas between OS, IS and e-Government; Chapter 3 provides a brief analysis of the literature in e-Government and explicates the main implications that can be drawn for the epistemologically integrative approach that is suggested in this work; Chapter 4 presents the conclusions of this paper.

2 Positivism and Interpretivism

The rhetoric of positivism versus interpretivism has been studied extensively in other works and in greater detail than this paper can afford. Scholars have devoted time and effort to explicate the significances of each approach and highlight the shortcomings of the other. In this work we do not opt for a detailed description of such a debate, but rather for an integrative approach on the matter, an approach that seems to be shared by other researchers as well [24], [42], [46]. Supporters of this thesis posit that the differences between positivism and interpretivism can be overcome by acknowledging their deeper ontological points of conformance, such as the quest for insightful results of situated cases and individually unbiased research.

In a similar vein, we suggest that positivist and interpretivist modes of research instead of being addressed as opposing each other can be addressed as supplementing each other. Where positivism can uncover causal relationships, interpretivism can highlight causal mechanisms [25]. In other words, positivism can help the researcher discover causal relationships between phenomena while interpretivism can help the

researcher deeply probe into the dynamics of these relationships and uncover their mode of operation, their causal mechanisms. In this respect, the two approaches can supplement each other in any research that strives for completeness. As we will suggest shortly, e-Government and IS have been dominated by the positivist perspective, and thus, the application of interpretivist methods can greatly enhance research in these fields.

3 Analysis of e-Government Literature and Implications

To conduct this study of epistemology in e-Government literature we decided to focus on journals that were specifically involved in e-Government and public administration research and especially on papers that were tackling problems of e-Government implementations and initiatives. Even though a small amount of theoretical approaches has been included, this was done because of their clear exemplifying of the main trends in e-Government research, as we construed them. Leading journals on IS and OS were used as sources for works concerning the study of information systems and organizations in general, but they were not used as primary sources for research specifically in e-Government. Moreover, the thorough epistemological investigation of the IS and OS disciplines falls out of the scope of this work since extensive research on both fields has already been carried out.

The literature in e-Government has mainly evolved upon two axes: one based on technologies and services [2], [7], [13], [16], [26], [27], [30], [45], [48] and the other based on social and organizational considerations [1], [4], [9], [10], [11], [14], [17], [18], [19], [20], [31], [32], [39], [40], [41], [47], [49]. The contributions of these papers can be divided in three general strands; frameworks for evaluation, theoretical models for studying and understanding, and empirical studies with insights or guidelines for initiatives of e-Government. However, their methodological choices evidence a favor to positivistic methods of analysis. The majority of the reviewed papers that are based specifically on data analysis employ statistical tools and hypothesis testing for their studies [4], [10], [14], [16], [27], [30], [39], [45], [47], [48], with only two papers following a different method; one of them employs a survey based on workshops [17] and the other carries out an interpretive analysis [18].

This seems to follow the pattern of evolution of the IS discipline, when in its first phases IS scholars regarded positivistic methods as the only reliable tools to capture useful results [35]. As the discipline evolved, however, attention started being paid to interpretive methods as well [5], [6], [21], [43], [44] and eventually their role was acknowledged not as better than positivistic methods, but as providing different, equally interesting, insights to research. In its current stage, e-Government follows a similar route with the discipline of IS in its first phases. However, e-Government scholars can benefit from the experiences of their colleagues in IS and “skip” some steps of evolution, coming to acknowledge from these early stages the usefulness of interpretivism as an epistemological tradition.

Moreover, e-Government has borrowed from IS considerations for the technologies’ materiality. The structural features of technologies as they were created by the designers and developers provide influential drivers for the way that these technologies will be applied [8] in the everyday practice of the governmental organizations. IS research is

particularly focused on technological particularities and the way technologies can influence business processes in organizations and in society in general. A major theme for e-Government research is the technological theme. In that light, research in e-Government can sufficiently benefit from advances in methodologies and tools in the IS field. Paradigms for development, architectures for information systems and models for evaluation and assessment are all of value to e-Government researchers, who have been drawing on such tools as they are being developed in the IS field.

However, e-Government IS are different, both in their scope and in the surrounding environment, from business IS and, thus, e-Government researchers have to modify the IS frameworks and models to satisfy the peculiarities of the public administration domain. At this stage though, it seems that e-Government is drawing on results from IS research while the reverse is not true. Publications in e-Government can be found to cite numerous papers from the IS field, but IS papers seem to bear little acknowledgement of the advances in e-Government. On a first thought, this is all too natural since, as far as e-Government IS is concerned, the field of IS is more general. Yet, the design and development of e-Government IS which must specifically take into consideration, apart from the usual, legal and policy parameters can provide novel ways to study IS in practice, based on situated data that are relevant to politics and particular to the field of public sector. These ways could extend the knowledge in the field of IS with factors which until now have not received so much attention or with new conceptual insights [15].

For instance, the works of Irani et al. [18] and Gil-Garcia and Pardo [12] although departing from different standpoints, rest on the same theme: how to implement in practice workable e-government information systems. Irani et al. [18] employ an interpretivist study of the process of e-Government evaluation. They highlight the importance of implementing such systems in order to provide practical gains that extend “outwards towards citizen groups – not merely doing so for the sake of technology change” [18 p. 162], thus bringing the user involvement and evaluation factor at the forefront of information systems implementation. This is an especially persistent requirement in the public sector where the implemented information systems are expected to render services to the major part of the population.

Gil-Garcia and Pardo [12] carry out a study of the relevance between practical tools and theoretical foundations that underpin the e-Government discipline. Their stated purpose is to enable more close relationships between research results and practitioner practices. The long-term goal of their work being the enabling of more theoretically informed implementations and, therefore, increased chances for workable e-Government information systems.

Both of these works can be used as exemplars for the incorporation and development of methods for investigating the theme of workable systems in the IS discipline. The omnipresent requirement of efficiency and practicality of initiatives in the e-Government discipline has sparked works that address these requirements. Hence, these works from the e-Government literature can provide the ground for further conceptual and methodological developments in the same vein in the IS discipline.

On the other hand, concerning the influence from OS, e-Government can benefit from institutional approaches [38] and, generally, theoretical perspectives on organizing [3], [36], [37], to adequately capture social and organizational diversities. Institutional perspectives can explain how institutions, norms and power asymmetries can

affect technologies and their use; an account of these processes is often lost in analyses of e-Government initiatives who have been influenced by IS concepts, and thus, unfold at levels closer to the hardware. Institutional perspectives can help e-Government in departing from the technologically deterministic account of the relationship between governmental organizations and IS that the one-sided focus on technologies can bring.

The work by Gil-Garcia and Martinez-Moyano [11] unfolds an institutional study based on the concepts of systems of rules to rethink the politics and administration dilemmas. In their analysis they tackle the conceptualization of rules as mechanisms of behavior constrain, solution guiding and bi-dimensional nature to conclude that the designer of a system of rules “is a single actor who can unilaterally decide the components of the system of rules and its overall orientation” [11 p. 279]. The authors continue to suggest that this particular requirement must be relaxed in the specific environment of e-Government implementations where the solution to a problem is a conceptual construct generated by groups of public managers. Their work, hence, is an example of how conceptual constructs (such as the institutional perspective of ICT in organizations) from OS can be adopted by e-Government scholars and be reframed by the peculiarities of their research.

Furthermore, both diachronic and cross-sectional studies aimed at unraveling the relationship between ICT and governmental organizations can provide useful results. Particular to the e-Government discipline, studies have investigated the readiness of governmental organizations prior to developing e-Government information systems in order to provide fully integrated electronic services [22], [23]. These studies have developed a cross-sectional prism across the themes of strategy, technology and e-Government initiatives.

On a different level, the structural perspective of technologies in organizations that has been proposed [8], [28], [29], [33] supports both diachronic and synchronic analyses and accords for the study of the reciprocal interaction between social structures in governmental organizations, technological features and everyday practices of the organizations' employees. Such topics of focus are essential for e-Government research when the concern is not limited to technological artifacts, but also on the enabling and constraining effect of institutions and the unfolding of social interactions in organizational settings.

4 Conclusions

In this paper we have developed the position that the cross-fertilization between OS, IS and e-Government can produce fruitful results to all three disciplines, but especially so in e-Government. Currently there seem to be streams of influence running in one direction mainly from IS and OS to e-Government, but not the other way around. Moreover, e-Government research is practically dominated by a positivistic epistemology as was experienced in the early stages of evolution of both OS and IS. However, these two fields have developed interesting interpretive schools, too, and our belief is that e-Government researchers can benefit from these schools by adopting them to the particularities of the research in their field.

If we are living through the transformation, both in form and in function, that many e-Government analysts identify, then researchers will need new tools to study advances in this process. We feel that the research results in more mature fields like OS and IS can provide such tools. However, we do not only support the application of ideas from OS and IS to e-Government, but also the reverse. Governmental particularities are invaluable sources of practical knowledge for the analysis of either organizational or technological phenomena.

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