Acts of Organizing and Knowledge Sharing: Key Factors Towards a Non-positivist Development of E-Service Studies

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Abstract The purpose of this conceptual chapter is to show, within a service science approach, that the improvement of e-services (and not just of services) is based not only on further development of ICTs (e.g., band width and computing power) but on the effective exchange of knowledge (including tacit knowledge) between providers and consumers enabled by the interplay of technology and people through specific acts of organizing. To this end, e-government has been chosen as an area of investigation and exploration because of the number of heterogeneous actors involved (individuals and public and private organizations), of the extensive use of technology, and of the issues that are being debated. Furthermore, the field has been an object of study for several years so that the available literature to draw upon is rich. Results show that the basic tenets of service science developed so far are an appropriate lens to understand current concerns in e-government and, conversely, the results of research on this subject can help address some key questions in e-service studies.

Keywords Service science · e-government · Acts of organizing · Knowledge sharing

1 Introduction

In his brief note on the Harvard Business Review, when describing the reasons why the new discipline of 'services science' seemed to be a promising area of research, Chesbrough [1] stressed the role of intangibility as the specific trait of services with two main consequences: (1) the lack of a tangible artifact to test consumers needs that makes innovation a different endeavor from other sectors;

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P. Spagnoletti (ed.), *Organizational Change and Information Systems*, Lecture Notes in Information Systems and Organisation 2, DOI: 10.1007/978-3-642-37228-5_8,

(2) productivity is harder to measure since both inputs and outputs are intangibles. He considers these two areas of research not satisfactorily explored by other disciplines. The same occurs to the question of the transfer of tacit knowledge which Chesbrough finds particularly relevant since services promote encounters among people that have to learn from each other for an effective service to occur. The accent on tacit knowledge was kept at center stage in the article that Chesbrough co-authored with Spohrer the following year [2]. A successive article by Spohrer and other members of the Almaden IBM Research center [3] points to explicit knowledge ("information" in their wording) as the key issue. Furthermore, given the importance of information technology in services, they highlighted the need to both differentiate and find connections between computational systems and service systems since the components can be modeled and simulated in the former whereas in the latter the presence of human beings complicates matters substantially. They suggest: "*perhaps*, if we model people as components with stochastic behavior" existing theories of computational systems can be applied to service systems ([3] p. 76, italics added). The word 'perhaps' used by the authors shows that caution is necessary when proposing computational models to be applied to human behavior. The theoretical objections to the computational model of the mind have been put forth for example by Dreyfus[4]; here such objections are mentioned because they underline the role of tacit knowledge in understanding human learning, both in individuals and organizations. Furthermore, other literature on service science defines service as "the application of competences (knowledge and skills) by one entity for the benefit of another" [5, p. 145] so that knowledge is once again at center stage in the discussion concerning the development of a theoretical framework for service science. This definition of service is particularly useful since it creates the basis for a non deterministic view of technology. Information and communication technologies (ICTs) are certainly a basic part of the picture but they must be kept in a non dominant role when undertaking the design of a service, lest they take the preeminence and obscure other and as important factors. In the work of Vargo and Lusch, the ten 'Foundational Premises of Service-Dominant Logic' is another contribution that should be highlighted in the service science literature because of its relevance for a non positivist approach to e-service studies. Specifically the tenth one: "Value is always uniquely and phenomenologically determined by the beneficiary" since "Value is idiosyncratic, experiential, contextual, and meaning laden" [6, p. 9].

Drawing on service science literature, the purpose of this conceptual chapter is to show, within a service science approach, that the improvement of e-services (and not just of services) is based not only on further development of ICTs (e.g., band width and computing power) but on the effective exchange of knowledge (including tacit knowledge) between providers and consumers enabled by the interplay of technology and people through specific acts of organizing. To this end, e-government has been chosen as an area of investigation and exploration because of the number of heterogeneous actors involved (individuals and public and private organizations) and of the extensive use of technology. Furthermore, the

field has been an object of study for several years so that the available literature to draw upon is rich.

The theoretical underpinnings draw on service science literature, mainly the work by Chesbrough, Spohrer, Vargo, and their co-authors [2, 3, 5, 6]. Furthermore, a non deterministic approach to technology is supported by Dreyfus [4] and Orlikowski [7] [8].

The chapter is structured in the following way. In the first section experiences and theories concerning evaluation in e-government initiatives are examined and commented on. The second paragraph explores the question of 'value propositions' in e-government. The third one considers the present characteristics of co-production in e-government and in the fourth section the paradox of policy claims concerning citizen participation are confronted with the scant participation of citizens in design activities. Concluding comments present the results obtained through the previous analyses.

2 Evaluating in a Non-positivist 'Service Science' Perspective

According to the framework proposed by Spohrer and his co-authors [3] internal and external services are considered to be key components of service systems. In the relevant literature on e-government, internal services (the vast area of 'back office', for example) are deemed to be just as important as updating front office service delivery channels [9]. A key service that can be either internal or external is managing change within public agencies since changes in ICTs have to be accompanied by organizational changes [9]. The way technology is conceived orientates priorities and the early phases of e-government projects have suffered from technologic determinism [10] so that appropriate design techniques constitute a core service to be offered in projects. In advanced countries' reform agendas, customer focus has been gained in projects whereby the needs of citizens and businesses prevail [9].

One crucial service within the e-government arena concerns how to evaluate initiatives from the ex ante phase to the monitoring of their implementation, searching for both positive outcomes and weaknesses so that experience can be gained for successive endeavors. The issue is complex but has interesting implications for the aim of this chapter. Evaluation becomes ever more critical since researchers who are investigating e-government in order to orientate initiatives in developing countries have stressed the enormous amount of resources invested in industrialized societies on government information technology: over 1 % of gross domestic product according to some estimates [11]. It is not surprising then that the evaluation approaches more commonly used are centred on return on investment, cost/benefit, payback period, and present worth which, however, have been criticized, for example, for their inability to go beyond the targeting of direct

tangible costs and benefits in information systems (IS) in general and specifically in e-government [12]. When considering the issues of information systems evaluation, some authors [13] find in the dominant overarching positivist conception (basically functional or rationalistic) the origin of the inadequacy of evaluation approaches that consider IS independent of organizational components: technological and accounting aspects overweigh the social ones so that the organizational context and the process of development of IS are not properly considered. Thus the evaluation process offers incomplete indications. When, instead, technical change is considered to be interwoven with organizational change, the evaluation process cannot be considered any longer an objective and external judgment and becomes itself "a socially embedded process in which formal procedures entwine with the informal assessments by which actors make sense of their situation"[13, p. 94] Since situations evolve, sensemaking is a process by which actors give meaning to their experience and orientate their choices and actions so that the evaluation process is open-ended -whereby, from IS design onwards, outcomes are interpreted and used to guide successive action toward improved performances. As Weick and his co-authors point out [14], besides being retrospective (built on experience) and onward looking (aimed at identifying successive actions), sensemaking is also social (actors are interdependent) and it entails communication so that interactive talk and exchange of interpretations allow organizing and decision making in the different circumstances at hand. In sum, the IS evaluation cycle deals with organizational change and is a complex matter that has to do with numerous aspects besides the (however crucial) technical and accounting ones. Specifically, the mentioned research results show that important tacit knowledge is created by the interaction of people in the sensemaking process and this fact should be considered when both evaluating and designing e-services.

As in the case of several e-government initiatives, when IS dimensions are significant, the issues in organizing change (and sensemaking) to pursue a certain accomplishment become ever more crucial because of the time required for development of the specific system and of the large number of heterogeneous actors involved. An example of the complex network of interests implied and of the analyses that have to be carried out in order to evaluate such large projects is the assessment conducted by the London School of Economics [15] on the Identity Cards Project that was to be launched in 2006 by the British government to combat terrorism and reduce crime. The report concluded that the 10 year roll-out, 10.6 billion pound (minimum) cost project for "the establishment of a secure national identity system has the potential to create significant, though limited, benefits for society. However, the proposals currently being considered by Parliament are neither safe nor appropriate." (p. 5) The project was then revised, partially implemented and finally dropped at the beginning of 2011. For the aim of this chapter, the most interesting comments of that report concern the key perspective to be adopted for a successful program: "Depending on the model used, identity systems may create a range of new and unforeseen problems… The success of a national identity system depends on a *sensitive, cautious and cooperative approach involving all key stakeholder groups* including an independent

and rolling risk assessment and a *regular review of management practices*." (ibid., emphasis added).

This concluding remark is particularly meaningful because it stresses that not only services are co-produced by providers and consumers (in this case the value to be co-produced was 'security'), but that also in e-services co-production is vital in order to prevent ineffectiveness and even failure. The 'new and unforeseen problems' can only be tackled by sharing information (explicit knowledge) and experience (tacit knowledge) gained among service providers in a process of 'sensemaking'.

3 'Value Propositions', Strategies and Models in e-Government Initiatives

The comments just made show that in e-government both the perspective of service-dominant logic and the concept of co-creation of value-in-use seem to be particularly useful, as the service science literature has pointed out [5, 6]. As mentioned above, the basic change undergone during the years in e-government approaches is the shift from techno-centric standpoints, where ICT was expected in itself to spur efficiency and effective services, to enabling views, where the accent is not on technology but on how public administration should change supported by technology [10]. Given the aim of this chapter, one question concerns whether or not (among policy makers and scholars) there is agreement on the core values that are leading this change since they should inform strategies and guide agents in the structures undergoing change (to generate better e-services) in the duality of organization and technology [16]. Interestingly, a recent research [10] shows that in the e-government practice the two sets of values that have been competing in the theoretical arena ('Weberian Bureaucracy' versus 'New Public Management-NPM') concerning public administration change are actually blended: elements of both approaches emerge. In fact, traditional weberian values (e.g.,: rule of law, objectivity, impartiality, high specialization, transparency) have been pursued and held together with NPM values (e.g.,: customer/citizen orientation, mission and goal orientation, cost efficiency). The following is a concluding comment expressed by the researchers in their case analysis: "[in] the project there existed value conflicts between NPM advocates of *customer centricity* and case-handling officers who relied on more traditional weberian values" (p. 55). This instance shows that different values and interests have been composed not because a superior entity in charge of e-government design decided that a new set of (blended) values had to be implemented. Rather, agents found a way to promote and safeguard their choices.

Those agents can be considered to be internal service providers that are making different (and competing) value propositions and who found a way to compose their different proposals in an integrated value proposition to internal customers

(the IS designers). This process can be considered itself a service (internal of course) because a new set of values (a blend of Weberian and NPM values) was co-produced through the interaction of people with different views who shared their knowledge.

The cited study does not explain how the synthesis between the two opposing strategies came about, that is what acts of organizing and leading where enacted by relevant actors. Nor such issues seem to have been included in the other high level models present in the literature [17]. Yet, there are several unsolved problems that concern citizen-government interaction and therefore the development of an effective value propositions to citizens by public administrations. The next session considers this interaction.

4 The Quest for Increased Citizen-Government Interaction: A Way Towards Co-production?

In 2001, the Organisation for Economic Co-operation and Development (OECD) published a report that identified key issues in strengthening government-citizen relations and ongoing interactions [18].The form of citizen involvement deemed desirable is 'active participation': the direct engagement of citizens in decision-making and policymaking. However, the analysis of the impacts of ICTs (the 'new frontier' of government-citizen relations) conducted in the report confirmed that online active participation was even more limited than offline participation.

What became clear in successive studies is that the engagement of citizens and the contextualization of e-government projects require not only the bridging of the 'digital divide' but also the promotion of 'intermediate entities' to act as a go-between in connecting citizens with services [9]. The important role of 'intermediaries' becomes apparent because the attitude of people towards ICT-intensive services has not been encouraging: surveys conducted in the years 2000 in the United States showed that half of the adult population had never visited the websites of federal agencies (two thirds had never accessed state or local government websites) [19] and the users of health information technology have been few [20]. Thus, any strategy concerning the delivery of public services must leverage other resources in order to integrate digital with in-presence public services. An example of such a strategy is the 'transformational government' policy launched by the UK government in 2005 [21], whereby government is transformed through technology but is also 'transformational' because it retains the ability to innovate by using technology effectively as technology itself develops. In this approach, the appropriate channel strategy is determined for each customer group, including relevant parts of government, "use of intermediaries,…, local providers and the voluntary and community sector" [21, p. 11].

In sum, in e-government programs a service-dominant logic is being built and a number of intermediate service providers ('intermediaries') are developing their value propositions in a sort of supply chain, where different techniques are

employed (both digital and in-presence). The reason for the flourishing of services within services is realizing that value is basically idiosyncratic and contextual, as was mentioned in the introduction to this chapter. Implanting a service-dominant logic in e-government, however, has to overcome a paradox.

5 The Paradox: Pursuing Citizen Participation but in e-Government Projects

At the policymaking level (at least in the OECD countries), there is: (1) a willingness to ensure higher interaction between citizens and governments; and (2) the belief that ICTs can be effective drivers and enablers of such augmented interaction. In addition, there is an awareness that the electronic channels pose problems of accessibility and usability that curtail their diffusion and use [22]. Despite such a widespread perception of the issues at stake, most existing studies on user engagement are not sensitized to the context of e-government [23]. The knowledge of how citizens are engaged in the development or selection of appropriate 'tools' (a growing phenomenon) is still inadequate since the literature on this topic is scant [24]. Clearly, the specific issue of 'citizen' engagement needs further study since 'user' participation instead has been extensively researched in information theory and practice (and its usefulness often acknowledged): as, for example, in the June 1993 issue of Communications of the ACM. Further, theoretical frameworks have been available for a long time: the socio-technical approach to IS of Enid Mumford dates back to 1983 [25].

Therefore, it is in some ways paradoxical that while e-government applications pursue interaction (and possibly active participation), the understanding of user (citizen) participation in designing e-government systems is still limited. In other words, users have little opportunity to be involved in technology design or to exercise 'ownership' over the solution provided. "There is also an inadequate appreciation of the culture of service providers and users and the context of service delivery and use" [26, p.863]. Yet, since the use of e-government services is still unsatisfactory, the engagement of citizens in the development of e-government systems and services would appear to be an essential factor, "the missing link" in generating e-government projects [27, p. 500]. Though based on the current limited evidence of citizen engagement in such projects (as the authors themselves highlight), the conclusions of the last cited study stress the importance of 'capacity building' in IS development, of leveraging the experience matured in offline citizen consultation and participation, and of circulating the emerging e-government participatory practices.

One significant problem, then, is that the actors involved in the design and implementation of e-government programs have an insufficient culture of co-production so that value-in-exchange is still dominant with respect to value-in-use: focus is more on products to be delivered (IS applications) rather than on a

thorough organizing of knowledge sharing along the process that is meant to perform the e-government service.

6 Conclusions

The examination of the e-government literature, that has been considered vis-à-vis the basic principles of 'service science', has shown:

- the evaluation of programs and projects is conducted mainly on economic measures which are not capable of capturing both propulsive and limiting factors in the process of organizing and sensemaking of such initiatives (quite important especially in large and long lasting projects); this bears negative consequences on the availability and sharing of thorough experiences and in the construction of holistic theoretical approaches (i.e., not technocentric nor economicscentric);
- internal services are engaged in making value propositions which often compete with one another, particularly when overarching frameworks are at stake (e.g. NPM versus 'Weberian'); competition among different approaches is part of an effective knowledge sharing process which sustains the value-in-use principle in a service dominant logic;
- 'active involvement', which can be considered as a proxy of co-production, is still in its infancy and it encounters obstacles both in the 'digital divide' and in the territorial dispersion of end-users;
- especially at the policy level a service-dominant logic is being built which underlines the role of 'intermediaries' to respond to different needs with articulated mixes of techniques; policymakers and practitioners, supported by the findings of researchers, are realizing that also in e-services value is basically idiosyncratic and contextual.

It is therefore reasonable to conclude that e-government initiatives have much to gain from service science principles.

On the other hand, service science, especially when e-services are considered, can gain from the findings of research on e-government a higher sensitivity when considering the role of ICTs -that is when considering the interplay of technology and the acts of organizing. Following Hosking [28], the use of the word 'organizing' is better suited than the term 'organization' to illustrate the fact that service is a process rather than a condition. Furthermore, knowledge sharing and sensemaking are both processes that are helpful in improving and innovating e-services, harnessed as they appear to be by active agency.

The limits of this chapter concern mainly the fact that it stops at the surface of management theory applicable both to e-government and e-services in general. In fact theories concerning leadership and organizational learning should be examined in depth. They represent successive research activities that will complete the work done so far.

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