



E-government and organisational transformation of government: Black box revisited?



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ARTICLE INFO

Available online 11 January 2014

Keywords:

Technology role
Socio-technical theory
Technological determinism
Leavitt's model
Organisational transformation
Second-order change

ABSTRACT

During the e-government era the role of technology in the transformation of public sector organisations has significantly increased, whereby the relationship between ICT and organisational change in the public sector has become the subject of increasingly intensive research over the last decade. However, an overview of the literature to date indicates that the impacts of e-government on the organisational transformation of administrative structures and processes are still relatively poorly understood and vaguely defined.

The main purpose of the paper is therefore the following: (1) to examine the interdependence of e-government development and organisational transformation in public sector organisations and propose a clearer explanation of ICT's role as a driving force of organisational transformation in further e-government development; and (2) to specify the main characteristics of organisational transformation in the e-government era through the development of a new framework. This framework describes organisational transformation in two dimensions, i.e. the 'depth' and the 'nature' of changes, and specifies the key attributes related to the three typical organisational levels.

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1. Introduction

Organisations continually strive for technological modernisation (which also applies to public sector organisations) in order to improve the key parameters of their operations and consequently there exists a fairly close correlation between technological and organisational development. As Nye (2002, p. 2) puts it:

Technology affects society and government, but the causal arrows work in both directions. Technological change creates new challenges and opportunities for social and political organizations, but the response to those challenges depends on history, culture, institutions, and paths already taken or forgone.

In general, there exists the thesis that was particularly successfully introduced within the BPR (i.e. business process reengineering) literature that for the successful implementation and realisation of ICT's potential (i.e. reducing costs, increasing efficiency, improving accountability, transparency, and the quality of services, etc.) organisational transformation, radical restructuring, and business process reengineering are needed (Hammer & Champy, 1993). These ideas have led to great changes in business processes in the private sector in the last twenty years, while ICT-induced organisational changes in public sector operations began to appear on a larger scale with some delay, primarily in the

last decade within the e-government phenomena. In reference to these changes, researchers of ICT-induced organisational transformation in public sector organisations have come to different, even contradictory, conclusions. On the one hand, there are researchers who are very optimistic about ICT's potential and claim that ICT has the potential to create radical changes in the classic bureaucratic structures of public sector organisations (for example, Bekkers, 2003; Bellamy & Taylor, 1998; Ho, 2002; Kim, Pan, & Pan, 2007; Murphy, 2005; O'Donnell, Boyle, & Timonen, 2003; Okot-Uma, 2003; Pollitt, 2010; Traunmueller & Wimmer, 2004; Weerakkody & Dhillon, 2008; Weerakkody, Janssen, & Dwivedi, 2011). On the other hand, there are researchers who are sceptical of ICT's transformational potential (for example, Fountain, 2001; Kraemer & King, 2006; Lazer, 2002; Maniatopoulos, 2005; Scholl, 2005; Van Wert, 2002), and particularly Kraemer and King (2006) have argued that there actually exists very little tangible evidence that ICT had the potential to reform public sector organisations in the past.

A thorough review and critical analysis of the available literature and research within the e-government field indicate: (1) the impacts of ICT on the development of administrative structures and processes, i.e. organisational transformation (hereinafter: OT), are still relatively poorly understood and there exist sometimes contradictory views about ICT's role; and (2) despite the widespread opinion that successful implementation of ICT in the e-government era is connected to the appropriate OT in public sector organisations, clearer explanations and descriptions of the nature and consequences of such OT for public sector organisations are still lacking. The e-government literature to date has dealt with OT only partially, often in a very abstract manner, considering

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it from different, rather isolated perspectives and consequently it is not sufficiently clear which characteristics and attributes of OT are the most important, which managers and decision-makers should pay attention to, as well as how to observe and measure them.

Accordingly, the main objectives of the paper are: (1) to develop a clearer explanation of the role of ICT as a key driver of OT in the e-government era by contrasting the theoretical background rooted in Leavitt's model with technological determinism/socio-technical theory; and (2) to summarise many bits and pieces of previous research in the field of OT, unite some views, and develop a more comprehensive framework of OT in the e-government era.

Both endeavours should help readers to understand the following more clearly:

- the role of ICT as a driving force of OT in further e-government development;
- the main dimensions of OT related to e-government development, i.e. the nature of OT and the depth of OT in public sector organisations;
- key attributes for both dimensions of OT according to which OT can be observed and measured.

The paper is structured as follows. The second section tries to explain the role of ICT in OT. The third section deals with the identification of the main features of OT that are expected in the e-government era, then follows a discussion of research implications, the practical applicability of the proposed frameworks, and some future trends in the field.

2. The role of ICT as the key driver of organisational transformation in the e-government era

There is no doubt that the role of ICT in the restructuring of public sector organisations has significantly increased since the end of the 1990s, i.e. during e-government era, whereby the relationship between ICT and organisational change in the public sector has become the subject of increasingly intensive research and study only over the last decade with somewhat conflicting results. As it has been already pointed out the majority of authors claim that ICT has the potential to drive radical organisational change (for example, Bellamy & Taylor, 1998; Kim et al., 2007; Murphy, 2005; Pollitt, 2010; Traunmueller & Wimmer, 2004; Weerakkody et al., 2011). However, there are also authors who believe that ICT is only one of the elements within an organisation which is reciprocally related to other elements within as well as outside of the organisation, and only an appropriate inter-play between them enables the realisation of the true potential of the new ICTs (for example, Fountain, 2001; Friedlander, 2000; Lazer, 2002; Maniopoulos, 2005; Scholl, 2005; Van Wert, 2002). Therefore, the first group of studies regards ICT as the key, more or less independent driver of OT in public sector organisations, whereas the second group of authors regards ICT as an equal and co-dependent variable in relation to other organisational elements such as people, structures, processes, etc.

Technology/ICT, as a driver of organisational development in the broadest possible sense, has for almost a century been a subject of interest to numerous social sciences (particularly organisational and political science). In studying its effects upon various social systems, numerous theories have also been developed, which can serve as an instrument for explanation of these relationships. In this context, those particularly interesting are the *Technological Determinism Theory*, on the one hand, and the *Socio-Technical Theory*, on the other.

It seems that the effects of ICTs upon organisational change in the public sector cannot adequately be explained leaning upon either of the above-mentioned theories. Namely, in practice there are many case studies which lead us to the view that on one hand, ICT can be seen as the key enabler and driver of OT of public sector organisations, while on the other hand the 'real' OT in the practice more than ever depends on many other factors within as well as outside of the organisation.

2.1. The role of ICT within existing organisational models and theories

As a theoretical foundation for understanding the role of ICT in OT, Leavitt's definition of organisation will be used that is best illustrated by Leavitt's well-known Diamond Model (Leavitt, 1964). For an in-depth analysis of the relationship between ICT and the other organisational elements the two previously mentioned and well-known theories appropriate to our discussion—the *Technological Determinism Theory* and the *Socio-Technical Theory* are selected and examined.

2.1.1. Leavitt's extended model

One of the rather old and most recognised conceptual views regarding organisations within the organisational literature is represented by Leavitt's Diamond, which illustrates an organisation as a system of four elements – people, structure, tasks, and technology – and is frequently used as the basis for analysing the influence of technologies upon organisational change (for example, Danziger, Kraemer, Dunkle, & King, 1993; Keen, 1981; Lucas & Baroudi, 1994; Lyytinen & Newman, 2008; Willson, 1999). This model, which was developed primarily for private sector organisations, is as well a very useful foundation for representing the key factors that influence the development of public sector organisations. Subsequently, the model was extended by other authors (for example, Burke & Peppard, 1995; Davis et al., 1992; Kovačič, Jaklič, Indihar Štemberger, & Groznik, 2004) and a fifth element was added—organisational culture, while the element 'task' was renamed into 'processes' (Fig. 1). These key elements of organisation are inter-dependent, which means that changes in one of them cause changes in the other.

2.1.2. Technological determinism

Technological determinism is a reductionist theory that presumes that technological progress defines social progress. Technological determinism regards technology as the basis of society in the past, present, and future. New technologies transform society on all levels: institutional, social, and individual (Chandler, 1996). Here we are speaking of so-called hard determinism. On the other hand, soft determinism appeared as a response to the strict principles of hard determinism, and it emphasises the increased roles of individual inclusion and selection. Even within soft determinism, technology is still the leading factor of social development (Lawson, 2007). It is interesting that within social science research dealing with modern technologies such as the internet, we are witnessing the appearance of tendencies towards explaining the relationship between technology and society in a relatively deterministic manner (for example, Daly, 2000; Valkenburg & Jochen, 2009; Yang, 2009).

2.1.3. The socio-technical theory

The socio-technical theory regards an organisation as a socio-technical system built from two correlated systems—the social and the technical. The technical system is composed of the processes, tasks,

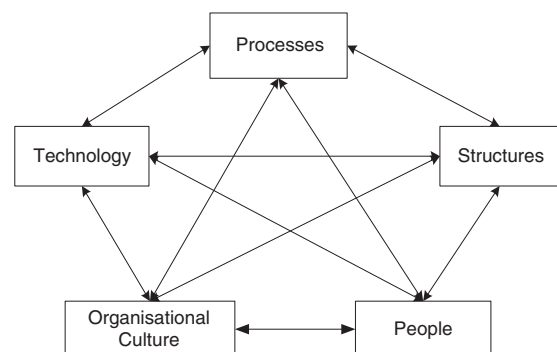


Fig. 1. Leavitt's extended model (Kovačič et al., 2004, p. 66).

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