Transformational Government – A Conceptual Foundation for Innovation in Public Administrations

Lars Baacke, René Fitterer, Tobias Mettler and Peter Rohner
University of St. Gallen Switzerland
lars.baacke@unisg.ch
rene.fitterer@unisg.ch
tobias.mettler@unisg.ch
peter.rohner@unisg.ch

Abstract: Structural changes and increasing dynamics in the public sector intensify the administrations' need for cost-savings and process optimisation. To address actual drawbacks the adoption of e-Government is currently seen as opportunity to improve not only effectiveness and efficiency but also quality of public service delivery. For doing so, knowledge about internal structures and the external environment is indispensable. As transformation projects of public administrations (PA) in comparison with other industries strongly depend on the perception of responsible individuals and affected stakeholders, theories and artefacts are needed that help to depict the organisational reality of the PA. Current industry-independent models do not sufficiently account for the characteristics of PAs, hence it is the aim of this contribution to provide a design-oriented approach in order to assist this transformation. For this purpose a conceptual model with 42 design elements is presented. Two different perspectives are identified for the analysis of the domain. An inter-organisational view defines all elements needed to depict the boundaries and environment of PAs. An intra-organisational view enables analysis of the internal reality of an organisation. As not only technical but mainly inter- and intra-organisational issues are actually restricting the adoption of e-Government, the presented conceptual model therefore provides a holistic framework for the improvement of requirements analysis of transformation projects.

Keywords: Conceptual model, transformational government, business engineering

1. Introduction

Innovation in PAs is driven by various reason, such as regulatory, technical, organisational, or cost-related needs in order to improve efficiency, effectiveness and quality of service production (cp. e.g. Thompson 1998, Kelman 2005). Over the last few decades, private as well as public sector organisations have recognised the potentials especially resulting from new Information Technologies (IT) and IT-driven organisational transformation, e.g. obliteration of geographic distance and electronic availability of information (Orlikowski and Iacono 2000, pp. 353), easing of control- and flexibility-related tensions, reduction of complexity resulting from managerial overhead or "segmentalism", and improvement of the management of boundary to external partners (Child 1988, pp. 259). However, projects to transform public organisations often fail because of various unexpected or neglected influences, such as legal restrictions, technical limitations, budget issues or resistance to change particularly due to a lack of commercial and competitive pressure (cp. Keen 1981). Following (Hannan et al. 2003, p. 410), the implementation of changes without a comprehensive understanding of structure and nature of the interconnections among subsystems will result in additional costs and longer implementation periods. Formalised knowledge about internal structures and the external environment is still lacking in the public sector and diverges strongly based on the perception of responsible individuals and affected stakeholders.

This paper contributes to such knowledge formalisation by specifying a conceptual model consisting of elements and interrelations that crucially influence the transformation of PAs. These elements enable a structured analysis of intra-organisational as well as inter-organisational issues and thus target project managers or consultants in the public sector. Therefore, after describing the methodological foundations in the subsequent section, the authors discuss the design of the conceptual model and explain the most important elements and relations.

2. Research methodology

As the transformation of governmental structures is a rather pertinent and practical issue, engaged research is needed in order to provide rigorous solutions for this relevant problem. A theoretical basis that serves both relevancy and rigour of research and requires engaged research is that of design science (Hevner et al. 2004). While natural sciences try to explain and predict behavioural aspects of the reality by developing and verifying theories (March and Smith 1995, p. 253), design-oriented research aims to build and evaluate innovative artefacts, in order to extend existing

capability limitations (Hevner et al. 2004, p. 76). Artefacts represent the actual results of a design process. They can be characterised as “constructs, models, methods, and implementations” (March and Smith 1995, p. 253). As the design process is usually initiated by a “need and require intention” (Purao 2002, p. 4), design science is considered a problem-oriented approach. In order to ensure the quality of a new artefact, the development process consists of two iterative steps (March and Smith 1995, p. 254): build (construction of the artefact in a transparent and traceable way) and evaluate (activities to prove innovativeness and ability to solve the addressed problem). In this contribution the authors focus on the discussion of the designed artefact, keeping in mind that further evaluation activities have to be conducted.

The artefact described in this contribution is constituted by a conceptual model for structuring the transformation of PAs. A conceptual model depicts ‘‘aspects of the physical and social world around us for the purposes of understanding and communication’’ (Mylopoulos 1992, p. 2) and thus supports communication between stakeholders (Kung and Solvberg 1986) as well as requirements definition and systems design (Rolland and Cauvet 1992). Furthermore, the usage of comprehensive conceptual models is considered supportive for realising intersubjectivity and transparency as well as consistency, uniformity, comparability and completeness of model instances.

Due to the strong hierarchical organisation structure and bureaucratic character of PAs (Parker and Bradley 2000, p. 127), strategy definition and management commitment are major success criteria. Hence the core elements of an organisational transformation “should be organized into a strategy for achieving that vision so that the transformation does not disintegrate into a set of unrelated and confusing directives and activities” (Fernandez and Rainey 2006, p. 169). Also, juridical regulations as the foundation of any PA’s activity have a negative impact on flexibility towards change. Revolutionary “blueprint approaches” such as the Business Process Redesign proposed by (Hammer and Champy 1993) are therefore to be classified as unsuitable for usage in the public sector (Baacke et al. 2007, p. 149). Instead a systematic approach which identifies components of change and consistently describes the current state of an organisation, the desired state as well as the delta to be bridged in order to achieve gains in efficiency and effectiveness of service provision to the public is an enabler for overcoming the change inertia resulting from previously described characteristics of PAs.

Although other industries also tried to address transformation by models and methods, most of these approaches do not depict the characteristics of PAs sufficiently. Hence, there is need for a more appropriate and comprehensive solution. In contrast to completely new developments, if developed by adoption of proven generic concepts, research artefacts are considered to result in a more effective and qualitatively better specialised solution. Thus, a domain-dependent conceptual model was derived from a generic approach using mechanisms of modifying, extending and removing existing elements and relations. The respective mechanisms have been selected on the basis of theoretical analysis and domain-related requirements.

3. Design of the conceptual model

Starting point for the construction of the artefact is the “Core-Business-Metamodell” presented in (Österle et al. 2007) which is considered an approach to structure the (re-)engineering of businesses. The underlying understanding of Business Engineering consists of models and methods which enable change processes by combining knowledge e.g. from business studies, change management or systems engineering (Österle and Winter 2003). In contrast to concepts that primarily focus on technical, cultural, behavioural, strategic or organisational aspects, Business Engineering extends those limitations and provides a holistic as well as detailed framework to integrate the various perspectives and activities of analysing, (re-)designing and implementing structural changes in organisations.The derived conceptual model is graphically presented in (Figure 1) of this contribution based upon the Unified Modelling Language class diagram notation (cp. e.g. Jacobson et al. 1999). It contains elements and their interrelations which depict relevant conditions for successful transformation of PAs. In order to describe both the internal reality as well as the characteristics of the administrations’ environment, two distinct views are differentiated: an intra-organisational and an inter-organisational perspective. This differentiation reduces the complexity of the model and allows focusing on relevant aspects. In the subsequent sections important elements are discussed in more detail.

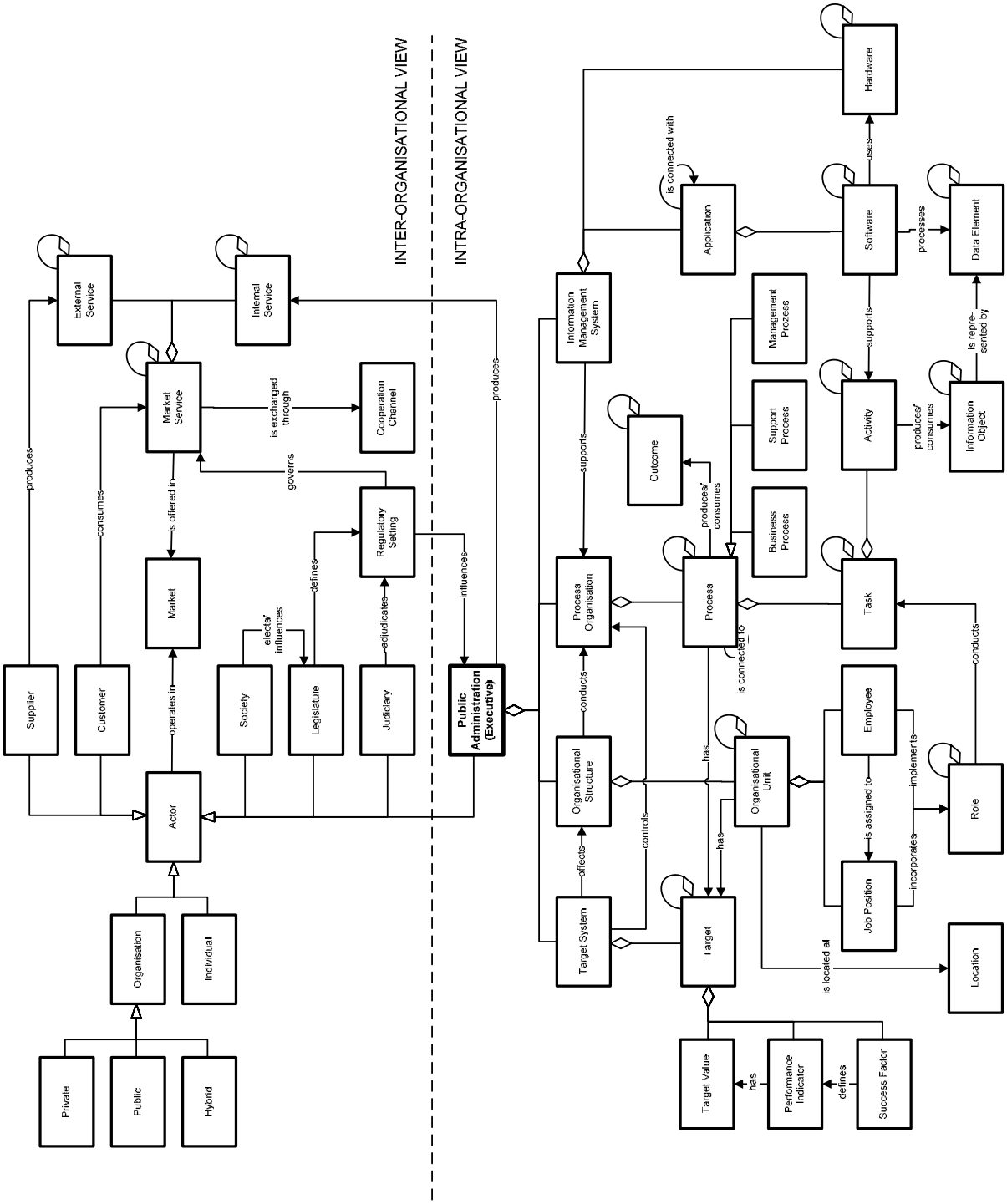


Figure 1: Conceptual model for transformation in public administrations

3.1 Intra-organisational view: understanding the internal complexity

Although most literature in organisational transformation implicitly follows the assumption that an organisation consists of loosely coupled elements ready for re-alignment and re-grouping (Scholl 2005, p. 2), the authors emphasise that for a holistic transformation an understanding of the relationships between the elements is necessary. Hence, the intra-organisational view provides not only a set of elements but also the relevant relationships among them, which are needed to explain the internals of the PA.

The most important elements of this reality constitute the target system, the organisational structure, the process organisation and the information system of the PA. Based on the work of

(Kaplan and Norton 1992) a target system of an organisation consists of multiple targets or goals for which success factors can be derived, and which in turn can be measured by performance indicators. For every performance indicator an explicit target value is defined.

According to (Jackson and Lapsley 2003, p. 365) nearly all public sector organisations use some kind of performance measurement technique. Notably, key performance indicators are used by 100 per cent of local authorities and by 94 per cent of government agencies. A complete balanced score card (BSC) approach is however only applied by 26 per cent of both local and national authorities. Consistent with (Niehaves and Algermissen 2006, p. 96) the low diffusion of the (rather industry-oriented) BSC is attributable to the insufficient adaptation to specific issues of the government domain, such as the primacy of politics and democracy.

In most cases the target system exerts an influence on the organisational structure of the PA. The organisational structure itself consists of organisational units (e.g. departments, centres), employees with defined job positions (e.g. head of building department, official in charge for building permissions) and roles (e.g. clerk, controller, administrator) performing specific tasks at different locations (e.g. in-house, off site). These tasks normally can be consolidated to processes.

Organisations typically prescribe how their processes have to be performed; especially those processes that represent complex routine work, that involve many persons and organisational units and that are frequently performed (Vassilacopoulos and Paraskevopoulou 1997, p. 142). Processes can be defined as sets of partially ordered and coordinated tasks (and thereof deduced atomic activities or functions) by which organisations accomplish their targets, often cutting across functional boundaries within organisations (Curtis et al. 1992, p. 76, Leymann and Altenhuber 1994, p. 326). The total of all processes builds the process organisation or business system (Davenport and Short 1990, p. 12). Accordingly, two important characteristics constitute the nature of processes:

- Processes have customers; that is, processes have defined (process) outcomes, and respective recipients. Customers may be either internal or external to the PA.
- Processes cross organisational boundaries; that is, they normally occur across or between organisational units. Processes are generally independent of formal organisational structure.

Furthermore, processes can be differentiated in terms of scope and customer value (that is for organisations and citizens). In accordance with (Rüegg-Stürm 2003, p. 68) three types of processes exist: business processes, support processes and management processes. Business processes include all tasks and activities to render a market service and thus deliver immediate value for the customer (e.g. issue a certificate of marriage or a building permit). On the other hand, support processes focus on the allocation of the PA's infrastructure and on the consequent assistance of efficient and effective business process delivery (e.g. facility management, training of staff, IT-support). As a consequence, support processes only generate indirect customer value. Management processes are needed for the organisation, governance and development of the PA. For instance, in the short term, management processes deal with the control of every-day business. In the long term, management attendance is needed for the strategic alignment and normative orientation of the PA.

An increasing number of processes within and between the PAs are supported by information systems. In line with (Zhou 1995, p. 4) an information system is a mechanism used for acquiring, filing, storing, and retrieving an organised body of knowledge. Generally, an information system is composed of hardware and software components, using data elements and procedures to process and disseminate information objects. Software components which in total aim at supporting a specific part of the business are called applications (Laudon and Laudon 2006, p. 173). Typical applications in the public sector are word processing and spreadsheet as well as planning, reporting, financial, and specialised line-of-business applications. In contrast to (Zhou 1995) who exclusively focuses on computer-based information systems, the underlying perception of information systems in the context of this work also includes paper-based solutions as part of the overall information system since a great proportion of the work of PA's is still performed without the use of any IT.

3.2 Inter-organisational view: Understanding the environment

In most cases the transformation of PAs cannot be limited to an intra-organisational perspective. Rather, the relations of an organisation to its environment and the environment itself are affected by change or even in the focus of transformation projects. The environment of a PA includes a network of stakeholders who act in the market. This network is considered an economic system. Especially the design of the relations to stakeholders, such as customers and suppliers, has strong potentials to exploit technological advantages and to improve efficiency of service delivery (Child 1988, p. 259). This section describes the economic environment of PAs in more detail and, thus, represents the inter-organisational view.

Starting point for the analysis of PAs' environment is the "actor". For this contribution an actor is defined as a stakeholder (individual or organisation) "who 'can affect or be affected by the achievement' of an organizational purpose, goal, or project" (Freeman 1984, p. 25). Although, there are also internal stakeholders, this section focuses on external actors.

In order to be able to consider relevant characteristics of different external stakeholders in transformation projects, organisations can be differentiated into public (e.g. municipalities), private (e.g. automobile industry) and hybrid (e.g. public-private-partnerships) entities (Rainey et al. 1976, Schiflett and Zey 1990), a distinction which is broadly used for various purposes (Perry and Rainey 1988). Well investigated criteria of differentiation are e.g. public interest, public goods and markets as well as ownership and funding (Wittmer 1991, Lane 2002).

Beyond the categorisation, actors adopt a specific role to exchange services in the market. As the differentiation between services and products (which are also exchanged in a market) is rather blurring (Alter 2006, pp. 116), the term "service" in this work covers both. Core of the overall proposed model and central part of the economic system is the PA which produces and consumes market services. However, producing and consuming services in PAs significantly differs from other industries. In order to understand the specificity of public services, it is necessary to consider the concept of separation of powers (Montesquieu 1748). Beside legislature and judiciary, Montesquieu's tripartite system envisages PAs as the executive part of a state. It is the task of PAs to produce services which are not provided by private organisations because market mechanisms fail (Wolf 1993, pp. 23) or which have to be provided by non-market-oriented organisations for various reasons (cp. Downs 2002). Thus, public services are strictly defined by law or restricted by other regulations. "Regulation is explained as efforts to correct distortions or 'market failures'" (James 2000, p. 330) and represented by the element "Regulatory Settings" in the proposed conceptual model. These regulatory settings do not only govern market services but additionally influence the internal organisational and procedural structures of a PA. They limit flexibility (Klischewski and Lenk 2002, p. 130) and void revolutionary approaches of change (Baacke et al. 2007, p. 149) – a characteristic which should be considered in any transformation projects.

Although, PAs also take on responsibility to define and adjudicate those rules they actually have to execute and, thus, the separation of powers increasingly becomes blurred (Rosenbloom 1983, p. 225), legislature and judiciary are also considered in the designed model. The judiciary is represented by institutions (e.g. courts) that are responsible to observe the compliance with regulations. In contrast, "Legislators […] are seen as essentially benevolent, designing and operating regulatory systems to correct […] failures […]" (James 2000, p. 330). As in democratic countries legislature is more or less directly elected and influenced by citizens, the society is another stakeholder of the economic system whose needs and expectations have to be considered when PAs are being transformed.

Furthermore, the economic system of the public sector contains additional stakeholder roles with regards to their position in the value chain of public service provision (Krashinsky 1997, Post et al. 2002). Beside PA, legislature, judiciary, and society especially suppliers and customers have to be mentioned (Donaldson and Preston 1995, pp. 68). Their influence on market services as well as their benefits resulting from transformation projects can be well investigated by stakeholder analyses (cp. Österle 2001, pp. 51).

An important influence of external stakeholders is their increasing involvement in internal processes. Examples in which the PA acts as customer of external services are procurement of

products or public contracting-out (Bogason 1998, p. 351). Reorganisation and new supporting ICT leads to more efficient supply process chains and reduced costs.

However, in this contribution we are emphasising the role of PAs as service providers. Market services for the customers of an administration may consist of internal and/or external services. A cooperative process example is the building application which is composed of the administrative approval on the one hand and the development of expertise reports (e.g. by external engineers) on the other hand. Such cooperation is defined to be processed "jointly with others, usually to resolve a problem" (Agranoff 2006, p. 56).

Moreover, whole processes or services are shifted between public and private sector (Warner and Hefetz 2008). Depending on the direction of the shift, this is called privatisation or deprivatisation of services (Thomas 2002, p. 67). As previously mentioned, deprivatisation usually takes place when market mechanisms fail. In contrast, competition is obviously required in order to privatise public services. A typical field of privatisation is the outsourcing of IT services.

Finally, the shifts within the public sector should be mentioned. Those shifts resulting in a reallocation of responsibilities (e.g from federal to municipal level) are often carried out in the context of inter-agency collaboration (Hudson et al. 2002). The challenge here is the identification of modular service parts and compatible interfaces (from organisational as well as technical perspective) that can be combined to a more efficient service producing workflow. In order to define such collaborative processes, areas of independence and interdependence, the need and legitimate basis for collaboration as well as the potentials for cost reduction and efficiency improvement have to be investigated (Hudson et al. 2002, pp. 330). However, this concept also allows to overcome the internally function-oriented specialisation and organisational separation (Bogason 1998, p. 351) by decoupling service distribution and service production (independency of front and back offices processes). Then, services can be provided by single-points-of-contact and over different cooperation channels (e.g. personal citizen offices or electronic portal technologies), and the approach of one-stop-government can be realised (Dias and Rafael 2007). The proposed structure and elements leave room for the modelling of changing levels of privatisation of business processes and different sourcing approaches for support processes.

4. Summary and outlook

This contribution describes a conceptual model for organisational transformation of PAs. Based on the "Core-Meta-Modell" of Business Engineering, adaptations and enhancements were presented that are needed to depict the characteristics and particularities of PAs and the market on which governmental organisations act. In the context of transformational projects a clear understanding of the overall settings with respect to interdependencies of entities and processes both internally and externally is a key determinate of success. The presented conceptual model thereby contributes to successful change by defining structural elements and their interrelations as well as developing a common terminology for analysing organisations and communicating with stakeholders.

As structural changes in the strongly regulated public sector usually have to be accompanied by modifications of legal settings, evolutionary approaches based on successive improvements are needed. The proposed model supports this demand as it can be used to comprehensively document the as-is situation and on this foundation enables identification of current weaknesses within the organisation or at its interfaces. Prioritisation of deficiencies provides potential starting points for innovations and helps to structure complex transformation projects. Based on her work on method construction for organisation transformation, (Baumöl 2005) considers such a conceptual model as the essential component for ensuring flexibility and integrity of scientific procedure models for goal-oriented and systematic organisational transformation.
In the context of the design research cycle (March and Smith 1995, p. 254) further research on the described artefact needs to be directed on proofing the problem-solving capability of the developed model in the sense of the degree of its contribution to enabling public organisations to successfully execute organisational change. This evaluation will furthermore enable the refinement of the model in order to provide a more in-depth explanation of the identified elements and their interaction at the different layers of Business Engineering.

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