

it is necessary to define what e-government success is and what some e-government success measures are. This book presents a review of both e-government success measures and e-government success factors. It also provides empirical evidence from quantitative analysis and two in-depth case studies. Although based on sound theory and rigorous empirical analysis, the book not only significantly contributes to academic knowledge, but also includes some practical recommendations for government officials and public managers.

Theoretically, the book proposes a way to quantitatively operationalise Fountain's enactment framework. Based on the institutional tradition, the technology enactment framework attempts to explain the effects of organisational forms and institutional arrangements on the information technology used by government agencies. According to Fountain (1995, 2001) the technology enactment framework pays attention to the relationships among information technology, organisations, embeddedness and institutions. This framework is very well known in the e-government field, but is normally used for qualitative analysis and there is no previous proposal of how to use it with quantitative data. The book proposes variables to measure each of the different constructs in this framework and also tests the relationships hypothesised by Fountain's theory. Finally, using the advantages of the selected quantitative analysis technique (partial least squares, PLS), the study also proposes some adjustments and extensions to the original framework in a theory building effort.

Methodologically, the book reports on one of the first multi-method studies in the field of e-government in general and e-government success in particular. This study uses a nested research design, which combines statistical analysis with two in depth case studies. The study begins with a statistical analysis using organisational, institutional and contextual factors as the independent variables. An overall score representing e-government success in terms of the functionality of state websites is the dependent variable. Secondly, based on the statistical results two cases are selected based on their relative fitness to the model (residuals) and their position in the general ranking of website functionality (which includes four different measures). In order to complement the results of the statistical analysis, case studies were developed for the two selected states (New York and Indiana), using semi-structured interviews and document analysis. In terms of the statistical analysis, the book constitutes one of the first applications of PLS to an e-government success study. PLS is a structural equations modelling (SEM) technique and, therefore, allows estimating the measurement model and the structural model simultaneously. The use of this sophisticated statistical strategy helped to test the relationships between e-government success and different factors influencing it, as well as some of the relationships between several of the factors, thus allowing exploring some indirect effects too.

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Chapter contents

According to the author, “Electronic government is not a well-defined theoretical construct. In fact, it can be understood as anything from online services only to any ICT used by government (including telephones and fax machines)”.

Chapter 1. Electronic Government Success: Definition, Measures and Factors presents an effort to define what can be considered as e-government success, starting out with the definition of e-government. A comprehensive review of the existing literature is therefore provided and a working definition of e-government as a complex socio-technical phenomenon, subject to definitional, stakeholder-oriented as well as evolutionary approaches, is developed. Important key e-government success factors are then analysed. Finally, existing gaps in the scientific literature are identified.

In *Chapter 2. Electronic Government Success and the Ensemble View of Information Technology*, after reviewing existing theoretical frameworks from information systems and e-government research that stress the importance of social and organisational factors in developing e-government models, a theoretical model is proposed under the title of ‘enacting e-government success’, based on Fountain’s (2001) technology framework along with other integrative models such as the process model of computing change.

Chapter 3. Identifying Electronic Government Success Factors: A Statistical Analysis elaborates a statistical model of the impact of organisational, institutional and contextual factors on e-government projects and services. In this first attempt to quantitatively measure institutional development in e-government research, the author conducts a PLS analysis using information from all 50 states in the USA. The use of graphs and descriptive statistics makes the analysis easy to understand even for readers not familiar with similar statistical methods.

Chapter 4. Enacting the Government-Wide New York State Website and *Chapter 5. Enacting the Government-Wide Indiana Website* present along the same structure two case studies that of the New York state website and the Indiana government-wide website. The author analyses both websites’ functionalities, their technical features, and the services they provide, and then moves on to discuss their implementation strategy, as well as their associated benefits, weaknesses and challenges. The argumentation put forward is based on the theoretical concepts presented in Chapter 2.

Chapter 6. Understanding Electronic Government Success: Discussion and Implications discusses the theoretical framework and methodological innovation of the author's approach and showcases the quantitative and qualitative results classified along six different aspects:

- enacted technology
- organisational outputs and outcomes
- management strategies and practices
- general organisational characteristics
- institutional arrangements
- environmental conditions.

The chapter also provides concrete recommendations on the variables used and specific mechanisms that help to understand e-government success when it happens.

Finally *Chapter 7. Conclusions*, drawing on the results of the statistical analysis and the two case studies presented, concludes that implementing e-government services valuable for governments and citizens requires much more than technology. A set of factors such as management strategies, organisational characteristics and social and environmental conditions are to be considered in order to achieve a successful e-government service deployment framework. Such a conclusion remains timely and relevant in the effort to understand new applications and tools, such as Web 2.0, social media, open government, cloud computing as well as inter-organisational information integration. At the same time, it is also applicable to many developing countries around the world that are more or less starting their e-government efforts.

Significance for the state of research and practice

Although tremendous progress has been made over the last 20 years in applying ICT to government and public services, and despite the continued allocation of enormous resources, progress on the e-government front appears to have plateaued over the past few years (Baumgarten and Chui, 2009; Bannister and Connolly, 2013; Klischewski and Lessa, 2015).

According to the literature, while a number of factors are known to cause e-government failure, this knowledge has not yet been translated into greater success in e-government implementation (Guha and Chakrabarti, 2014). On the one hand, the idea that adopting successful e-government models is much more than a matter of technology, calling for organisational, behavioural, institutional and socio-cultural factors that need to be considered, is becoming quite popular. Still, on the other hand, solid empirical data and a holistic conceptual framework for e-government efforts seem to be missing (Osman et al., 2014).

Gil-Garcia offers one of the first comprehensive studies highlighting the multidimensional character of e-government, defined as a socio-technical phenomenon, and providing an in-depth analysis of why e-government projects sometimes succeed but most of the times do not.

Using an empirical multi-method methodology Gil-Garcia analyses from both a quantitative and a qualitative perspective what e-government success is and how it can be

measured, not only in terms of activities, but also in terms of processes, outputs, and outcomes. At the same time, from the standpoint of statistical analysis, the book constitutes one of the first applications of PLS to an e-government study.

The issue of linking e-government and organisational change is a concrete example of this book's contribution to the theory and practice of e-government. The 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 (Nograšek and Vintar, 2014). Gil-Garcia, using two case studies, directly addresses the relationship between ICT and organisational change in the governmental sector as a key success factor and offers concrete guidelines on how this can be achieved.

Being in line with existing literature and benchmarking efforts for various facets of e-government exhibiting complexity and emergent behaviour (Karamagioli and Gouscos, 2014) Gil-Garcia proposes a holistic approach integrating policy, organisational and technological factors with their institutional and societal environment.

In this respect, the book comes even more of help in the case of developing countries, demonstrating many examples of e-government failures. More often than not, such project failures are studied after they have already happened (post hoc) and not in advance or during implementation, thus not having the opportunity to provide real-time recommendations for improvement (Lessa et al., 2014).

At the same time, as the research framework presented in this book is based on data from some 50 US state websites, interesting research directions are opened up to apply this approach to different cases, both from an institutional (e.g. local governments) as well as from a technology perspective (e.g., e-government initiatives built around Web 2.0 tools, cloud computing applications, big/open/linked data).

Significance for managers and instructors

The book offers both the theoretical background and a set of practical recommendations to government officials and public managers who undertake design, implementation and evaluation of e-government projects. Through the two case studies presented, Gil-Garcia describes in an easy to understand way the complexity and the challenges faced when e-government models are applied. The multidimensional character of e-government projects is highlighted and readers are helped to understand how to best evaluate the positive and negative aspects of their e-government strategy in terms of sustainability and viability.

At the same time, the approach taken in this book can be applied in a straightforward way to other scenarios, such as the case of local governments in developing countries that are in need of such holistic implementation frameworks (Lessa et al., 2014).

From an instructor perspective, the book comes of hand for e-government courses for undergraduate and postgraduate students, as a solid and integral contribution to the e-government literature field which is often populated with approaches mainly based on case studies (Dawes, 2008; Charalabidis et al., 2010).

Gil-Garcia acknowledges that electronic government is not a well-defined theoretical construct (Rana et al., 2011) and therefore uses qualitative and quantitative analysis to propose a multidisciplinary and project-based approach combining organisational, public administration and public policy theory. In this respect, the book comes of use to research-based e-government studies as well, due to the potential of the approach

presented to be applied across different ICTs for government, as well as due to the concrete suggestions for future research paths that it provides.

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