

INFORMATIONSTECHNOLOGIE UND ÖKONOMIE

Herausgegeben von Christian Becker, Wolfgang Gaul, Armin Heinzl,
Alexander Mädche und Martin Schader

49

Miroslav Lazic

The Impact of Information Technology Governance on Business Performance

ANWENDUNGEN
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Foreword

For a considerable amount of time, research and academia have been aiming at understanding and designing the organisational framework for the provision and usage of corporate information technology (IT). Against this background, IT governance (ITG) has become a central issue, as it determines the framework for decision rights and accountabilities in the use of IT.

The discussion of a contingent organisational framework for the deployment of corporate IT is not novel, with literature on this topic dating back to the 1960s. However, the enactment of the Sarbanes-Oxley Act and comparable legal regulations in other countries revived the question of responsibilities and accountabilities in relation to the provision and usage of information and related technologies. Regarding the design of a corporation's ITG, three major stakeholders have to be brought in line: top-management, which is primarily focused on efficiency goals, line management of the singular business units, aiming at effectivity goals and the IT management itself, being responsible for the provision and operation of the required IT infrastructure. Corporate IT can only be applied to its best use if the accountabilities and decision rights of these groups of stakeholders are clearly defined and well aligned. Publicly traded corporations that are not able to present a documented ITG framework run the risk of not passing annual audits, or passing only with additional requirements.

As a result, a number of organisations and associations initiated the development of so called ITG frameworks. These are aiming at structuring corporate IT tasks in order to allow for a distribution of decision rights among the respective stakeholders. In extraordinary cases, like e.g. the breakdown of an outsourcing provider, an ITG matrix would also be applied to clarify accountabilities. The threat of a personal liability for potential outages should provide incentives for the responsible managers to pursue their respective tasks proactively in order to deter possible damage of the corporation. Alongside with rising awareness among all managerial levels of a corporation, the altered legal framework has set the topic of ITG on the agenda of supervisory boards as well.

Meanwhile, a large body of scholarly literature on ITG has emerged. However, the majority of the published academic work is focused on distinguishing different forms of ITG, or empirically examining which type of ITG is most appropriate depending on the internal and external context of an organization. In doing so, these studies have strongly contributed to both, theory and practice. However, almost none of them enriches the theoretical understanding of the relationship between ITG and business performance and its causality. Yet, this question is vital for both, theory and practice because only if the theoretical link between ITG and business performance is fully revealed, research can confidently make suggestions on how to design and implement ITG.

Miroslav Lazic's dissertation has addressed this important and exciting research gap. It is among the first studies that are able to provide answers to the question of how ITG influences business performance. Doing so, this work makes several contributions to extant literature. Above all, the study adds to the broad body of knowledge on ITG by improving our theoretical understanding of the causal relationship between ITG and business performance. Moreover, the findings shed light on the interacting effects of complementarity and the diverging antecedents of sub-additive and super-additive value synergies. By applying and enhancing reference theories in the case of ITG, the study contributes, in addition, to theory development in adjacent disciplines, such as organisational theory and strategic management.

Translating the theoretical findings into to managerial guidelines, the results of this study provide decision makers with substantial insights on how to design and implement ITG. The outcomes not only shed light on the question of how to improve business performance with IT through efficiency gains but also of how to add value in terms of super-additive synergies that potentially result in sustainable competitive advantages. Altogether, Miroslav Lazic's dissertation is remarkable in terms of its contribution to theory and practice.

The study was part of a research project with Protiviti Germany and conducted in close cooperation with major German blue-chip corporations.

The book targets both practitioners and researchers. Managers obtain valuable knowledge on the impact of IT governance. In particular, managers are offered a clear guiding frame for planning and implementing ITG initiatives with insights on the effects and value contributions that can be expected from actively designed ITG. Academic readers are offered a systematic and profound contribution on IT governance and its impact as well as on theory building in the Information Systems discipline and beyond.

Mannheim, October 2012

Armin Heinzl

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List of Abbreviations

AC	Absorptive capacity
BITA	Business/ IT alignment
BS	British standard
BU	Business unit
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CG	Corporate governance
CIO	Chief Information Officer
CMS	Content management system
COBIT	Control Objectives for Information and Related Technology
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CRM	Customer relationship management
DP	Data processing
EDI	Electronic data interchange
ERP	Enterprise resource planning
EUC	End-user computing
HIR	Human IT resource
HR	Human resources
IS	Information system
ISO	International Organization for Standardization
IT	Information technology
ITBV	IT business value

ITG	IT governance
ITIL	IT Infrastructure Library
KBV	Knowledge-based view
MIS	Management information systems
OEM	Original equipment manufacturer
PAT	Principal-agent theory
RBV	Resource-based view
SIS	Strategic information systems
SISP	Strategic information systems planning
SLA	Service level agreement
SOX	Sarbanes-Oxley Act
SRM	Supplier relationship management
TCO	Total cost of ownership
TIR	Technical IT resource
US	United States of America

1. Introduction

1.1 Problem Statement

The fundamental importance of information technology (IT) in today's business operations can hardly be refuted. Following a recent article in the Wall Street Journal, 87% of business leaders believe that information technology is critical to strategic success (Chen 2010; Worthen 2007). In a consequence, IT spending is constantly rising, with IT costs in average representing more than 4% of revenue within corporations, which is a significant fraction of the total expenditures (Gartner 2011). Gartner (2012) further expects that worldwide IT spending will exceed \$3.6 trillion in 2012, which accounts for a 3% increase from 2011, where an increase of 7.9% was observed.

The pervasive and growing willingness to invest excessive amounts in information technology eventually demonstrates that IT has become crucial for the support, sustainability and growth of businesses (De Haes and Van Grembergen 2009). Therefore, a strong focus on the governance of IT and its related resources, called *IT governance* (ITG), is inevitable. Regarding empirical studies which posit that “*above-average IT governance*” (Weill 2004, p. 1) can account for more than 20% higher profitability, actively designed and documented ITG is critical.

Consequently, IT governance is increasingly attracting attention in practice and research (De Haes and Van Grembergen 2009). Boosted by the passage of the Sarbanes-Oxley Act (SOX) in 2002, many organisations started with an implementation of ITG, but academic research within this area is still in an early stage.

Nowadays, a diverse range of topics is collected under the umbrella term ITG, such as strategic alignment, control and accountability, delivery of business value through IT, performance management or risk management, with some of these research streams going back to the 1960s, as shown by Brown and Grant (2005). Bearing this wide field in mind, it is not surprising that several definitions and conceptualisations of the term IT governance are in use; hence, it is crucial to define the concept more precisely.

Within this study, IT governance is regarded in line with Weill (2004, p. 3) as “*the framework for decision rights and accountabilities to encourage desirable behavior in*

the use of IT". Following Brown and Grant (2005), this is the most contemporary concept of IT governance. Van Grembergen et al. (2004) describe ITG as being embedded within several layers of the firm, from board level to operational IT. However, according to Peterson (2004b), a clear distinction between ITG, which is based at the top-management level, and IT management, which is concerned with decisions on the operational level, is crucial.

This is very much in line with Weill (2004, p. 2 f.): *"IT governance is not about what specific decisions are made. That is management. [...] Good IT governance draws on corporate governance principles to manage and use IT to achieve corporate performance goals"*, as well as the definition by the ITGI (2003, p. 10): *"IT governance is the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organisational structures and processes that ensure that the organisation's IT sustains and extends the organisation's strategies and objectives."*

Although contemporary literature acknowledges that good IT governance has a positive impact on the performance of a firm, the outcomes and models developed in preceding research endeavours on ITG are descriptive and prescriptive, while mostly lacking a theoretical foundation (De Haes and Van Grembergen 2009). In other words, the available literature shows empirically that ITG can create value and offers recommendations on how to establish good IT governance, but there is to date no explanation of how the assumed value is exactly created. Theoretical models explicitly dealing with ITG are generally scarcely available (De Haes and Van Grembergen 2009). Recent exceptions, like e.g. Liang et al. (2011), consider ITG mainly in relation to business/ IT alignment (BITA), which in turn is understood in relation to business performance. Although this is an important first step, it is still unsatisfying as many questions are left unanswered, as shown in this study.

To sum up, despite the diverse body of literature on ITG, a theoretically grounded explanation of the positive impact of IT governance on business performance is not available today.

1.2 Research Objective

In face of this significant lack of research, this project attempts to open the black box of the relationship between IT governance and business performance, which leads to the first research question:

- *How are IT governance and business performance related?*

As this research project aims at building a mid-range theory that not only analyses but that as well explains (Gregor 2006) the relationship between IT governance and business performance, the second research question is:

- *How can the assumed positive impact of IT governance on business performance be explained?*

An analysis of the nature of the relationship of IT governance and business performance provides numerous insights for different stakeholders. First, a contribution to theory in IS is intended to be made by addressing the research gap regarding the impact of IT governance on business performance and developing a mid-range theory that, first, sheds light on the determinants and implications of mechanisms triggered by IT governance and, second, explains how and why those mechanisms increase business performance. Moreover, this study draws partly on theories that originate in reference disciplines, like the resource-based view of the firm (RBV), the knowledge-based view of the firm (KBV) or the theory of complementarities, and applies them to the IT governance domain. As a consequence, the findings also have implications for theory development in these related disciplines. Third, as IT governance is a highly significant topic in practice and, thus, on the agenda of every CIO, the outcomes of this study are likely to be relevant for practitioners by answering what IT governance can achieve and what has to be considered before, during and after the implementation of ITG. The research framework is depicted in Figure 1.

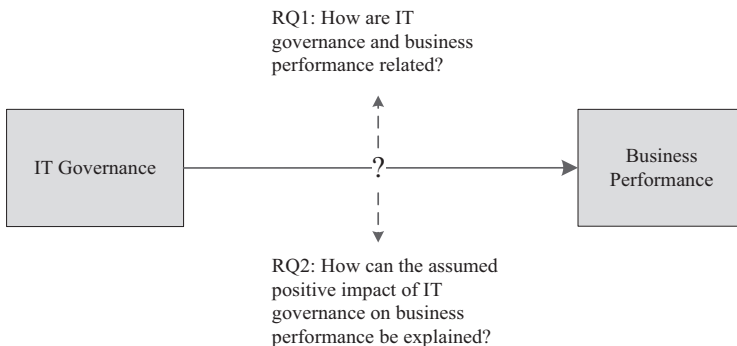


Figure 1: Research framework

1.3 Research Design

For opening the black box between ITG and business performance, the case study method is applied. In an effort to close the previously identified gap in the existing research, this study integrates two empirical phases of which the first is exploratory in nature and aims at theory building, while the second phase is focused on empirical substantiation and refinement of the developed mid-range theory. The object of analysis is determined as the organisation that implements ITG. Due to the fact that previous literature does not provide theoretical models on ITG, a qualitative research design is chosen. Qualitative case study research is according to previous literature well suited in order to answer the question of *how* ITG and business performance are related (Yin 2009).

The research endeavour starts with a thorough review of IS as well as non-IS literature. Thereafter, within the first empirical stage, exploratory case studies of major multibusiness corporations are conducted for theory building. The data is gathered from various industries, making sure the observations are comparable, but not industry specific. The perspective taken is that of the top management. In order to guide the expert interviews, preliminary conceptualisations of the basic constructs *IT governance* and *business performance* are derived from existing literature (Eisenhardt 1989b).

In line with Eisenhardt (1989b), the insights gained from the exploratory case studies are then again compared with the relevant literature in order to develop a theoretical model that analyses and explains the relation between ITG and business performance. This approach helps to build a model that is based on empirical data as much as on a rigorous theoretical background.

In order to substantiate the findings and refine the theoretical model, a second empirical endeavour is undertaken. To avoid a selection bias, a new case sample is chosen. The constructs and propositions employed in the developed model serve as basis for the design of a more structured second interview guideline so as to meet the requirements of the corroborating nature of the second data collection.

1.4 Study Organisation

The structure of this study is developed according to the design of the research endeavour.

Chapter 2 provides the basis for this thesis with the deduction of the fundamental constructs that are framing the research questions and a thorough discussion of the theo-

retical lens and foundations of the conducted research project. Therefore, a detailed overview of the terminology and the emergence of information technology are given before past and contemporary concepts of the management of IT are introduced. This leads on to the discussion of the value that is provided by IT and a review of essential literature – both in the area of IS as well as in related disciplines – on business performance, which is the dependent construct in the research framework presented in Figure 1. Next, previous work on IT governance is reviewed in detail, leading to a conceptualisation of the independent construct of the research framework. Summing up, based on a literature review, Chapter 2 provides a conceptual framework that guides the exploratory empirical phase of the research endeavour.

Chapter 3 offers the motivation and theoretical justification for the qualitative research design that was chosen in order to answer the proposed research questions. The ontological and epistemological stance of this thesis is discussed and the design of the research project as a whole is elucidated in more detail.

Building upon the literature analysed and the first empirical phase, an explanatory model that answers this study's research questions is developed in Chapter 4. In doing so, the findings of 11 exploratory case studies are presented and analysed based on existing theories.

Following the design of the research endeavour, Chapter 5 presents the substantiation and refinement of the developed model. In doing so, a second data-set comprising 10 case studies was gathered and is, first, introduced in depth case by case. Thereafter, a cross-case analysis is undertaken in order to either substantiate or neglect the theoretical links that were proposed by the developed model, leading to a refined mid-range theory of the relationship of IT governance and business performance. Causal relationships revealed by a mid-range theory are generalisable to certain extent, but do not offer an abstract overarching explanation that is valid in every feasible context (Gregor 2006; Merton 1968).

The results and the contribution of this research endeavour are discussed in detail in Chapter 6. After the implications for theory and practice are presented, existing limitations are assessed and opportunities for future research, which emerged in the course of this study, are suggested.

Chapter 7 provides a summary and conclusion of the study.

