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Enterprise Governance and Enterprise Engineering

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"It's all generated, maybe, [the general lack of respect for the people trying to solve problems] by the fact that the attitude of the populace is to try to find the answer instead of trying to find a man who has a way of getting at the answer".

— Richard P. Feynman, Physicist and Nobel Price winner (1918–1988)

[Feynman 1998, p. 66]

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Preface

Enterprises – our overall label for businesses, companies, organizations, or (governmental) institutions and their alliances – have a significant effect on the prosperity of modern society. Enterprise performance and strategic success exerts a far wider effect than merely the enterprise itself. Unfortunately reports about strategic success are not overly positive: the majority of the strategic initiatives appear to fail, meaning that enterprises are unable to derive success from their strategy. These high failure rates are reported from various domains: total quality management, business process reengineering, six sigma, lean production, e-business, customer relationship management, (information) technology introductions, and mergers and acquisitions. Whereas all too often, unforeseen or uncontrollable events are presented, for the sake of convenience, as the causes of failure, we will argue in this book that strategic failure is mostly the avoidable result of inadequate governance resulting in inadequate strategy development and implementation. To worsen the case, future enterprises will have to operate in an even more dynamic and global environment than the current ones. They need to be more agile, more adaptive and more transparent. They will also be held publicly accountable for every effect they produce. Strategic failures will thus manifest a more profound societal impact.

This book centers around two themes:

- The way *governance* should be perceived and arranged in view of enterprise strategic success and the ability to change and adapt
- The notion of enterprise *design*, and specifically enterprise architecture, for creating conditions for enterprise strategic success and creating the ability to change and adapt to future, still-unforeseen internal and external enterprise developments.

Governance

Three governance themes continue to enjoy broad attention: corporate governance, IT governance and enterprise governance. These themes are addressed from within their respective disciplines and are virtually never treated in a unified and integrated manner, which does not in itself contribute to strategic success. The same holds for the topics of IT architecture and enterprise architecture. Roughly speaking, the three governance themes have the following focus. Corporate governance concerns the totality of measures (internal and external) for safeguarding the financial/economic interests of shareholders. A typical aspect within the corporate governance perspective is *compliance*: the adherence to pertinent rules and legislation. The theme of IT governance has been around for decades, whereby the *business and IT alignment* notion is addressed frequently: deployment of IT such that 'business value' is created. Given the similarly high failure rate of IT introductions, IT governance does not appear to be overly successful. The enterprise

governance theme appeared in the literature more recently, based on the obvious insight that, rather than compliance, enterprise *performance* is far more determining for safeguarding shareholders interests.

I aim to show that virtually all approaches to these governance themes share the same underlying characteristics. These characteristics are criticized strongly. A radically different perspective is offered for effective governance. Only within this different perspective can the enterprise effectively:

- arrange itself for adapting to future, unforeseen developments
- stimulate and utilize the creative and intellectual capacities of employees
- address the core reason for strategic failures.

Design

A plethora of literature indicates that a core reason for strategic failures is the lack of coherence and consistency among the various components of an enterprise, which precludes it from operating as a unified and integrated whole. The crucial and necessary condition of coherence and consistency is emphasized with various labels, such as 'internal congruence', 'organizational alignment', 'structural fit' or 'structural conflict' in the opposite case. The higher the degree of fit – or congruence – among the various components of the enterprise, the more effectively the enterprise is likely to operate. Our basic premise is that enterprise unity and integration does not come 'incidentally', but has to be *designed*. The design aspect, which we introduce under the label *enterprise engineering*, must thus be a central area of attention when effectuating governance. Only within the focus on design, can the notions frequently mentioned in the literature of IT architecture and enterprise architecture be addressed meaningfully.

Talking about design often appears to be associated with machine-like characteristics that have a mostly negative connotation: bureaucracy and inflexibility. However, since enterprise arrangements should not be based on any incidental developments, design must be interpreted broadly and regarded as any intentional action to create desired enterprise arrangements or enable desired enterprise developments. Service and customer orientation, quality, productivity, flexibility, process excellence, lean production, compliance, motivated and involved employees, or lower operational costs do not come of their own accord, or because someone at the top has 'declared' it so. Rather, the enterprise must be designed such that these areas of attention are successfully operationalized. Enterprise design thus has a much wider scope than merely the structural-functionalist foundation.

In view of the above, this book focuses on the organizational aspects of effective governance, and within that perspective on the conditions and concepts (theory and methodology) that establish unified and integrated enterprise design The approach presented in this book has also been practiced. Personal experiences in various management positions have shaped my thinking in this respect. I am indebted to many people with whom I enjoyed the creative, enriching and fruitful dialogs about the topics addressed in this book, either in relation to their practical application, or in relation to lecturing or speaking about the subject matter. There

are ample reasons to continue the dialog: hopefully the themes addressed in this book provide perspective for further development. The underlying motto is provided by the social-psychologist Kurt Lewin: nothing is as practical as a good theory.

Jan Hoogervorst

Learning Objectives

Essential learning objectives are summarized per chapter. These learning objectives aim to create the capacity to apply the insights, theories and methodologies within the reader's own organizational setting, and create the ability to acknowledge and assess the associated conditions for success.

Chapter 1: Introduction

- Grasp the notion of enterprises as 'organized complexities'
- Have an initial understanding about why the concepts of 'enterprise governance' and 'enterprise engineering' are relevant for addressing organized complexity
- Appreciate the notion of 'design' and understand that design is not necessarily associated with creating a machine-like enterprise
- Understand the essential difference between 'governance' and 'management'
- Have an initial understanding about the nature of the corporate, IT and enterprise governance themes and their relationships
- Comprehend why the three governance themes must be treated from a unifying perspective: enterprise governance
- Understand the concept of 'organizational competence' for the notion of the competence-based governance perspective to be detailed later.

Chapter 2: Mechanistic and Organismic Perspectives on Governance

- Fully comprehend why and how typical characteristics of Western thought have influenced society strongly and ways of organizing and governance within enterprises, and comprehend the limits of this type of thinking
- Appreciate the different outlook of Eastern thought and the associated different perspectives on organizing
- Acknowledge the linkage between complexity and dynamics on the one hand, and uncertainty on the other, and appreciate that much of traditional control in enterprises is a myth, such that other forms of control are required
- Seeing that traditional control and the excessive focus on planning are two sides of the same coin
- Understand that traditional management attention is misdirected to employee performance rather than to enterprise performance, and appreciate that the latter necessitates a focus on design
- Appreciate that strategy development is a learning process rather than a planning one, and understand the importance of the competence-based approach to governance in view of strategic transition barriers, and in view of adequately addressing complexity, dynamics and uncertainty

- Fully support the notion that employee involvement and their self-organizing capacities are essential for enterprise success
- Understand the difference between the mechanistic and organismic way of organizing, and see the importance of the latter concept and the associated crucial role of employees
- Acknowledge that some aspects of mechanistic thinking are relevant for creating the structural-functionalistic operational core of the enterprise, and understand this to be necessary, but not sufficient
- To see it as inevitable that the organismic way of organizing similarly implies the organismic perspective on governance
- Fully comprehend why the traditional mechanistic approaches to governance are inadequate.

Chapter 3: Enterprise Essentials

- Appreciate essential characteristics of enterprises and the non-trivial issues of functionalization versus coordination, and differentiation versus integration, and understand the necessity of the organismic perspective on governance and organizing for resolving these non-trivial enterprise issues
- Fully grasp that the organismic perspective on organizing is associated with a fundamentally different enterprise design
- Appreciate the inherent dynamics, complexity and uncertainty associated with the modern enterprise context, and understand the crucial capacity of the competence-based governance approach for addressing the characteristics of the modern enterprise context
- Understand that the requirements posed by the modern enterprise context – to operate in a unified and integrated manner over increased operational extendedness – further necessitates a focus on design
- See the difference between the rational/planning view on strategy development and the generative thinking/learning view, appreciate the inadequacy of the rational/planning view and understand why the generative thinking/learning view on strategy development necessitates arranging governance as an organizational competence
- Grasp the essence of two different categories of strategic choices, and understand that operationalizing strategic choices necessitates (re)design
- Fully apprehend the core reason for strategic failures and the crucial importance of a comprehensive governance perspective
- Understand the importance of enterprise unity and integration as an essential area of attention for the governance competence
- Appreciate the relevance of the central governance role, and the positioning of this role at the level where unity and integration are required
- Understand why local self-organization and central governance are not necessarily conflicting, and appreciate that effective self-organization necessitates central governance (not central planning) for certain aspects

- Grasp the limitations of the 'structure follows strategy' maxim, and understand the importance of the enterprise enablement concept, and its association with the organismic way of organizing (design to change)
- See the importance of employee behavior in view of the central role of employees within the organismic perspective on organizing and governance, and appreciate essential characteristics of employee behavior
- Understand that culture, management/leadership practices, and enterprise structures and systems, are central elements of the employee behavioral context that determines employee behavior, and appreciate that these elements are critical success factors for the organismic way of organizing
- Grasp the essential difference between leadership and management, and understand why leadership is alien to the mechanistic view on governance
- Appreciate that the behavioral context determines the effectiveness of governance relationships
- Fully comprehend the paradigm shifts associated with modern enterprises, mandating the argued organismic perspective on governance.

Chapter 4: System Thinking

- Understand the core aspects of the system notion, and the structural-functionalistic, the interpretative, and the system dynamics approaches within system thinking
- Appreciate the importance of system thinking for addressing the organized complexity of enterprises, and for establishing unity and integration
- Comprehend the difference between functional (teleological, black-box) and constructional (ontological, white-box) perspectives on systems
- Fully grasp the distinction between the descriptive and the prescriptive (normative) views on architecture, and appreciate the importance of the prescriptive view for effectuating the role of architecture in system design, while acknowledging that the notion of architecture is thus necessarily associated with the system concept
- Understand the phases of system realization and the notions of function and construction architecture in relation to function and construction design
- Grasp the process of architecturing (defining architecture) and see the essential difference between architecturing and designing
- Comprehend the notions of 'areas of concern' and system 'design domains' with respect to system behavior, and fully apprehend that architecture addresses one or more areas of concern, and applies to one or more system design domains
- Understand the generic system design process and the role of architecture, and appreciate the difference between requirements and architecture
- Appreciate the heuristic, participative characteristics of the architecturing process, and understand how architecture principles must be formulated and published in order to provide effective design guidance

- Grasp the essence of an architecture framework, and fully understand why many frameworks published in the literature are questionable
- See that system thinking is not necessarily associated with machine-like characteristics, and appreciate that pertinent to enterprises, system thinking does not exclude the notion of emerging enterprise developments (through self-organizing capabilities).

Chapter 5: Corporate Governance

- Appreciate the origin of the corporate governance theme and the crises that have put this theme within the public eye
- Grasp the internal versus external, and the narrow versus broad perspectives on corporate governance
- Appreciate the focus of corporate governance reform, and grasp its partly problematic nature, and fully apprehend that the financial/economic focus is in and of itself unable to safeguard the interests of shareholders
- Fully comprehend the conceptual and methodological inadequacy of the corporate governance perspective – and the associated focus on the economic value of the enterprise – for addressing enterprise performance
- Understand why effective corporate governance can only be arranged within the overall context of enterprise governance
- See that corporate governance is associated with the mechanistic view on organizing and governance, and understand the limitations of the COSO framework in this respect
- Fully understand the necessary IT and enterprise design perspective in which corporate governance requirements for compliance and internal control are addressed concurrently.

Chapter 6: IT Governance

- Understand why the theme of IT governance has continued to be a problematic issue for many enterprises
- Appreciate the revolutionary character of IT progress and the IT governance paradox
- Comprehend the issue of 'business and IT alignment', and understand why traditional approaches to this issue are ineffective for bringing about alignment
- Grasp the importance of IT enablement, and appreciate that this notion is alien to the mechanistic perspective on IT governance, but can only be effectuated within the organismic, competence-based view on governance
- Fully apprehend that traditional approaches to IT governance are associated with the mechanistic view on enterprises, and understand thoroughly the limitations of these traditional approaches
- Understand the core reason for IT strategic failures and the absence of any positive relationship between the amount of IT investments and enterprise performance

- Completely understand that IT alignment, IT enablement and the value of IT follow from unity and integration of IT design and enterprise design, and thereby appreciate that IT governance must be placed within the overall context of enterprise governance
- Understand that performance of IT systems can only be defined in terms germane to IT systems and cannot be expressed in terms of enterprise performance, and fully comprehend that addressing the latter performance requires an enterprise-wide design perspective within which IT performance is addressed concurrently
- Appreciate organizational contextual conditions for effective IT governance
- Fully understand the different roles, characteristics and tasks of the IT governance core competencies, and appreciate the importance of the competence-based approach
- Understand the role and tasks of IT architecture management, IT project portfolio management and IT program management
- Appreciate the enterprise IT system design domains and their relationship with IT architecture, be able to utilize these domains (or define them) for one's own organization, and can define architecture relevant for the design domains, such that architecture addresses areas of concern relevant for IT systems
- Fully grasp the inadequacy of the linear, top-down and planned approach to IT strategy development, and appreciate the collaborative, iterative and concurrent character of activities, whereby IT strategy develops in an emerging fashion, reflecting the generative/learning perspective on strategy development
- Appreciate the IT governance process and understand the role of formal governance meetings
- Understand why IT governance must be positioned as a central organizational competence, and appreciate this central role within the context of reducing IT legacy complexity
- Appreciate the characteristics (and limitations) of the CobiT framework for IT governance, and understand our view on IT governance maturity.

Chapter 7: Enterprise Governance

- Fully understand the necessity of enterprise governance and the role of enterprise engineering
- Understand the two pillars of enterprise engineering: enterprise ontology and enterprise architecture, and appreciate the importance of enterprise architecture for operationalizing strategic choices
- Comprehend (as an introduction to more in-depth literature) the essentials of the enterprise ontology theory and methodology for establishing the (implementation-independent) structural-functionalistic foundation of an enterprise, and understand the various aspect models of an enterprise

- Appreciate the difference between, and complementary nature of, business rules and enterprise architecture
- Understand the enterprise design process, and the communicative role of enterprise architecture for bridging the gap between the management-oriented functional perspective, and the constructional perspective on enterprises
- Fully apprehend that enterprise architecture must be developed for addressing strategic choices and objectives pertinent to areas of concern coherently and consistently, be able to apply the design domains within one's own organization, and define architecture pertinent to these domains, such that architecture addresses strategic choices and areas of concern
- Grasp the different notions about enterprise architecture mentioned in the literature, and appreciate that only the normative, prescriptive view on enterprise architecture can address strategic objectives pertinent to areas of concern, and can ensure enterprise unity and integration
- Fully understand the process of architecturing in the case of enterprises, and understand the associated areas of concern and enterprise design domains
- Understand that enterprise architecture comprises four sets of architecture: business architecture, organization architecture, information architecture and technology architecture, which are associated with the four main enterprise design domains: business, organization, information and technology
- Comprehend the specific scope of these architectures and their definitions
- Understand the further detailing of the main enterprise design domains in sub design domains, for which architecture must be determined, and be able to appreciate the architecture examples given pertinent to the design domains
- Fully understand the different roles, characteristics and tasks of the enterprise governance core competencies, appreciate the importance of the competence-based approach, and acknowledge the complementary and overall guiding role of the enterprise governance core competencies for effectuating IT governance
- Understand the role and tasks of enterprise architecture management, enterprise project portfolio management and enterprise program management
- Fully grasp the inadequacy of the linear, top-down and planned approach to enterprise strategy development, and appreciate the collaborative, iterative and concurrent character of activities, whereby enterprise strategy develops in an emerging fashion, reflecting the generative/learning perspective on strategy development
- Appreciate the enterprise governance process and formal governance meetings
- Understand that the service-oriented architecture approach fits neatly within the outlined enterprise governance approach, its core competencies and processes, and understand that conversely, the service-oriented architecture approach necessitates the argued form of enterprise governance
- Fully apprehend that the notion of enterprise ontology – the modeling of the enterprise essence, independent of its implementation – greatly facilitates

the definition of (generic) services within the service oriented architecture concept
- Appreciate enterprise governance maturity levels
- Understand the different categories that determine personal competencies in general, and appreciate the knowledge areas and personal competencies of the enterprise governance staff.

Chapter 8: The Praxis Illustrated

- Comprehend the (pro)active role of the enterprise governance competence for (1) making sense of the market, consumer, and operational challenges the case's fictitious company is facing and (2) defining new strategic perspectives, and areas of concern that must be addressed
- Understand how the enterprise engineering methodology is used by the governance competence, and being able to translate the approach outlined in the case to one's own organizational context
- Recognize the importance of ontological models for grasping and depicting the operational essence of the company after its transformation
- Appreciate the functional and constructional requirements that are to be addressed in design, and understand the difference between requirements and architecture
- Comprehend the crucial role of architecture, that must be defined by the enterprise governance competence, for operationalizing the company's ontological models into the design of construction models that can be implemented, while concurrently addressing the areas of concern
- Appreciate that the definition and publication of architecture, in the formal structure sketched, provides the coherent and consistent reference for ensuring the company's unified and integrated operation, and forms an important basis for defining the company's commodity infrastructure and services
- Acknowledge that the company's developments progress in an emerging manner, and that design rather than planning is of primary concern, and that design activities form the basis and rational ground for the company's project portfolio.