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COBIT® 5

A Management Guide

Pierre Bernard

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Preface

This Management Guide provides readers with two benefits. First, it is an easy accessible reference guide to IT governance for those who are not acquainted with this field. Second, it is a high-level introduction to ISACA’s open standard COBIT 5.0 that will encourage further study. This guide follows the process structure of COBIT 5.0.

This guide is aimed at business and IT (service) managers, consultants, auditors and anyone interested in learning more about the possible application of IT governance standards in the IT management domain. In addition, it provides students in IT and Business Administration with a compact reference to COBIT 5.0.

Similar to the previous version of this management guide, based on COBIT 4.1, it aims at two important areas: Auditing and IT Service Management. It will offer the auditors a bridge to the service management business, and it offers the service management world a management instrument that enables them to put the pieces of the puzzle together, and get (and remain!) in control. However, compared to previous versions, COBIT 5 focuses less on auditing and revision. The influence of ITIL is strongly felt – which is not least because of service orientation – and the positioning of the service management processes within the COBIT 5 process domains can be clearly seen. Because governance and service management are ever-closer growing management disciplines, companies with IT organizations that have aligned their service management according to ITIL can enrich their management and governance with COBIT 5.

COBIT 5 has a closer alignment with ITIL than before, which confirms that IT service management and IT governance are developing in the same direction. This implies that for organizations that have organized their service management on ITIL principles, improving their IT governance based on COBIT is a logical next step.

Any comments and suggestions regarding the content of this management guide are welcomed by the COBIT 5 project team.

October 2012
The Publisher
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CHAPTER 1

Introduction and executive summary

1.1 Introduction

Information is a key resource for all enterprises, and throughout the whole lifecycle of information there is a huge dependency on technology. Information and related information technologies are pervasive in enterprises and they need to be governed and managed in a holistic manner, taking in the full end-to-end business and IT functional areas of responsibility.

Today, more than ever, enterprises need to achieve increased:

• Value creation throughout the enterprise’s IT
• Business user satisfaction with IT engagement and services
• Compliance with relevant laws, regulations and policies

COBIT 5 is a governance and management framework for information and related technology that starts from stakeholder needs with regard to information and technology. The framework is intended for all enterprises, including non-profit and public sector.

Several global business catastrophes over the last few decades such as the Asian financial crisis of 1997, the early 2000s recession (2001 to 2003 – the collapse of...
of the Dot Com Bubble, September 11th attacks and accounting scandals\(^2\), the ENRON scandal\(^3\), and the banking collapses of 2008 to 2012\(^4\), have brought the term “governance” to the forefront of business thinking. On the positive side, some success stories have also demonstrated the importance of good governance. Both have established a clear and widely accepted need for more rigorous governance. Increasingly, legislation is being passed and regulations implemented to address this need, which has moved governance to the top of agendas at all levels of the enterprise.

The COBIT framework allows enterprises to achieve their governance and management objectives, i.e., to create optimal value from information and technology by maintaining a balance amongst realizing benefits, managing risk and balancing resources. Further benefits include but are not limited to:

- Maintain high-quality information to support business decisions
- Achieve strategic goals and realize business benefits through the effective and innovative use of IT
- Achieve operational excellence through reliable, efficient application of technology
- Maintain IT-related risk at an acceptable level
- Optimize the cost of IT services and technology
- Support compliance with relevant laws, regulations, contractual agreements and policies

### 1.2 What is governance of enterprise IT?

There are many sources competing to be the definitive authority on this topic. Here are a few examples. For the purpose of this publication ‘governance of enterprise IT’ is used as a short form for “the governance of enterprise IT”.

**CIO Magazine\(^5\)**

*Governance of enterprise IT is putting in place a structure aligning the IT strategy with the business strategy. This enables enterprises in staying the course in achieving their strategies and goals, as well as implementing proper means of measuring* 

---


\(^4\) news.bbc.co.uk

\(^5\) Based on the definition found at [www.cio.com](http://www.cio.com)
the performance of the IT enterprise. Governance of enterprise IT takes into consideration the interests of all stakeholders and ensures that processes provide measurable results. A governance of enterprise IT framework should answer some key questions, such as:

• What are the key metrics needed by the management team?
• How well is the IT enterprise functioning?
• What is the return on investment to the business of investing in IT?

**Enterprise for Economic Co-operation and Development (OECD)**

Governance of enterprise IT is the set of processes and procedures to direct and control an enterprise. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the enterprise – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision-making.

**BWISE**

Governance of enterprise IT is a subset of an enterprise’s corporate governance strategy. Governance of enterprise IT focuses specifically on information technology systems, their performance, and risk management. The primary goals of governance of enterprise IT are to assure that the investments in IT generate business value, and to mitigate the risks that are associated with IT.

**ISACA**

Governance ensures that stakeholder needs, conditions, and options are evaluated to determine balanced, agreed-on enterprise objectives to be achieved; setting direction through prioritization and decision making; and monitoring performance and compliance against agreed-on direction and objectives.

**COBIT 5** provides an end-to-end business view of the governance of enterprise IT that reflects the central role of information and technology in creating value for enterprises. The principles, practices, analytical tools and models found in COBIT 5 embody thought leadership and guidance from business, IT and governance experts around the world.

---

6 Based on the definition found at www.oecd.org
7 Based on the definition found at www.bwise.com
8 Based on the definition found in the glossary at www.isaca.org
Compliance
Governance and compliance are not synonymous. Basically compliance can be summarized as the state or fact of according with or meeting rules or standards. Synonyms include: agreement, consent, accord, accordance, and conformity.

What are the major focus areas that make up governance of enterprise IT?
According to the IT Governance Institute\(^9\), there are five areas of focus:

1. **Strategic alignment**
   This covers the alignment of the enterprise’s and IT’s perspective, position, plans, and patterns.

2. **Value delivery**
   From a customer perspective, value is expressed in terms of the desired business outcomes, their preferences, and their perceptions in regards to the product or service.

3. **Resource management**
   It is important to include the following elements as resources: funding, applications/software, infrastructure/hardware, information/data, and of course people. In order to properly manage their resources, enterprises must develop and maintain the following capabilities: management, enterprise, processes, knowledge, and people.

4. **Risk management**
   A risk may be defined as the uncertainty of an outcome whether positive or negative. The management of the risk includes the identification of the tangible and intangible items to be protected, the various (real or potential) threats facing those items and the level of vulnerability of the items in regards to a specific threat. The enterprise must then decide an appropriate means of mitigating the risk; this may range from doing nothing to attempting to fully protect the item from the threat.

5. **Performance measures**
   Before establishing any measure an enterprise needs to identify the reason for the measure. There are four basic reasons for measuring: they are to direct, to validate, to justify, and to intervene. The enterprise needs to identify many

\(^9\) Based on the definition found at http://www.isaca.org/Pages/Glossary.aspx?tid=422&char=G
other criteria for the measures. These criteria include, but are not limited to, compliance, performance, quality, and value. Furthermore, the measures can be quantitative (objective) or qualitative (subjective). All the measures must also adhere to the SMART principle where

\begin{align*}
S &= \text{Specific} \\
M &= \text{Measurable} \\
A &= \text{Achievable} \\
R &= \text{Realistic} \\
T &= \text{Timely or time bounded}
\end{align*}

Evidently, there is much more regarding the above. However, as this publication is only a management guide about governance of enterprise IT, the reader is invited to consult Appendix A for a list of websites and books for further details and explanations.

The topics of governance and compliance (sometimes known as “transparency”) are now common in various books, whitepapers, articles, conference presentations, and blogs. To make good governance happen and deliver the expected results, enterprises must address the challenge of participation. It’s all about the attitude, the behavior, and the culture of the enterprise\textsuperscript{10}.

One of the primary behaviors that the management team of the IT enterprise needs to encourage is the broad on-going participation of all IT stakeholders to ensure that governance of enterprise IT makes a significant and visible contribution.

Corporate governance is critical for ensuring that key decisions are consistent with corporate vision, values, and strategy. The same can be said about governance of enterprise IT. However, this can only be accomplished if the IT enterprise derives its vision, values, and strategy from the corporate ones.

According to the CIO Magazine\textsuperscript{11}, the IT enterprise makes five types of business-related decisions

1. IT principles and policies to drive the role of IT in the enterprise
2. IT architecture based on existing and future technical choices and directions
3. IT infrastructure for the delivery of shared IT services

\textsuperscript{10} ABC of ICT
\textsuperscript{11} www.cio.com
4. Business application requirements for each project
5. Prioritization of IT investments based on business priorities

Enterprises need to design, transition, and operate governance mechanisms to make and then implement each of the above types of decisions. There are many types of governance mechanisms and techniques:
- Mechanisms that facilitate decision making
- Processes that ensure alignment between technology and business goals
- Methods for communicating governance principles and decisions

In order to accomplish the above, the executive team (corporate and IT) should:
- Set the IT priorities
- Communicate priorities and progress clearly and regularly
- Monitor projects regularly

1.3 Overview of this publication

This publication provides an explanation of the objectives, scope and format of COBIT 5, and introduces the COBIT 5 architecture. It allows various stakeholders to understand how COBIT 5 meets the stakeholder needs for governance and management of enterprise IT and how it can be used, and it provides implementation guidance. Further sections of the document are:

1. Introduction and executive summary
2. The COBIT 5 principles
3. The goals cascade
4. Detailed description of the enabler models
5. The process model
6. Implementation guidance
7. The process capability model

1.4 What to use? Where to start?

There is an old adage that says that “it doesn’t make sense to reinvent the wheel”. There are many existing and well documented complementary frameworks and methodologies which can be used. All have been designed, implemented, and used by a worldwide community of enterprises and industry experts.
Table 1.1 Various frameworks

<table>
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<td>COBIT</td>
<td>The framework, from the Information Systems Audit and Control Association (ISACA), is probably the most popular. It is a set of guidelines and supporting toolset for governance of enterprise IT that is accepted worldwide. Auditors and enterprises use it as a mechanism to integrate technology in implementing controls and meet specific business objectives. COBIT is well suited to enterprises focused on risk management and mitigation.</td>
</tr>
<tr>
<td>ITIL</td>
<td>ITIL advocates that IT services must be aligned to the needs of the business and underpin the core business processes. It provides guidance to enterprises on how to use IT effectively and efficiently as a tool to facilitate business change, transformation, and growth. There are five core publications which provide a systematic and professional approach to the management of IT services, enabling enterprises to deliver appropriate services and continually ensure they are meeting business goals and delivering benefits.</td>
</tr>
<tr>
<td>COSO</td>
<td>This model for evaluating internal controls is from the Committee of Sponsoring Enterprises of the Treadway Commission. It includes guidelines on many functions, including human resource management, inbound and outbound logistics, external resources, information technology, risk, legal affairs, the enterprise, marketing and sales, operations, all financial functions, procurement and reporting. This is a more business-general framework that is less IT-specific than COBIT or ITIL.</td>
</tr>
<tr>
<td>CMMI</td>
<td>The Capability Maturity Model Integration method, created by a group from government, industry and Carnegie-Mellon’s Software Engineering Institute, is a process improvement approach that contains 22 process areas. It is divided into appraisal, evaluation, and structure. CMMI is particularly well suited to enterprises that need help with application development, lifecycle issues, and improving the delivery of products throughout the lifecycle.</td>
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**What can go wrong if it’s not implemented effectively?**

If the governance of enterprise IT framework isn’t implemented properly, it can directly affect how IT is perceived by the business and other high-level stakeholders. Ineffective implementation of the governance of enterprise IT can exacerbate already on-going issues such as project overruns and poor value to cost measurements, not to mention stakeholder dissatisfaction.

Complying with governance of enterprise IT represents a myriad of challenges. Some of these challenges include, but are not limited to:

- IT personnel not informed of the requirements of compliance
- Not having IT controls in place
- Missing a deadline or reporting a “material weakness” in your IT controls
1.5 Implementation tips

The following list represent “must-have” to ensure a (relatively) smooth implementation as well as the positive delivery of expected results. The following approach, often referred to as Kotter’s\textsuperscript{12} Eight-Steps to transformation is widely known and well documented.

1. Create a sense of urgency
2. Form a guiding coalition
3. Create a vision
4. Communicate the vision
5. Empower others to act on the vision
6. Plan for and create quick wins
7. Consolidate improvements and produce more change
8. Institutionalize the change

1.6 Appendices

Appendices contain reference information, mappings and more detailed information on specific subjects:

Appendix A – References
Appendix B – Detailed mappings
Appendix C – Stakeholder needs and enterprise goals
Appendix D – COBIT 5 vs. COBIT 4.1
Appendix E – COBIT 5 and the IT Governance Institute’s (ITGI) five governance focus areas
Appendix F – Mapping between COBIT 5 and legacy ISACA frameworks
Appendix G – About ISACA

CHAPTER 2

The COBIT 5 principles

The framework covers the whole enterprise providing a basis to integrate effectively other frameworks, standards, and practices used. The framework is made up of a single overarching one, allowing for a consistent and integrated source of guidance in a non-technical, technology-independent common language.

The framework is based on the following principles, see figure 2.1.

Figure 2.1 COBIT 5 principles
The framework integrates all knowledge previously dispersed over different ISACA frameworks\textsuperscript{13} such as COBIT, Val IT, Risk IT, and the Business Model for Information Security (BMIS) and the IT Assurance Framework (ITAF).

The benefit of the architecture within the framework is to support the goals, i.e., providing to all stakeholders the most complete and up-to-date guidance on governance and management of the enterprise’s IT.

Figure 2.2 provides a graphical description of the COBIT 5 architecture that result from this principle.

### 2.1 Principle 1: Meeting Stakeholder Needs

COBIT 5 is an integrator framework because it:
- Brings together existing ISACA\textsuperscript{14} guidance on governance and management of the enterprise’s IT
- Aligns with the latest versions of relevant standards and frameworks\textsuperscript{15}
- Provides a simple architecture for structuring guidance materials and producing a consistent product set

### 2.2 Principle 2: Covering the enterprise end-to-end

Enterprises exist to create value for their stakeholders, so the governance objective for any enterprise – commercial or not – is value creation. Value creation is based on the customer’s perceptions, preferences, and desired business outcomes. It means realizing benefits at an optimal resource cost while optimizing risk (see Figure 2.3). Enterprises have many stakeholders, and “creating value” means different things to each of them – sometimes conflicting. Governance is about negotiating and deciding the value interests amongst different stakeholders. By consequence, the governance system must consider all stakeholders when making assessments and decisions about benefit, resource, and risk. For each of these value creation components, the question can and should be asked: for who are the benefits, and risk, and which resources are required?

\textsuperscript{13} See www.isaca.org for more details on each of these frameworks
\textsuperscript{14} See Appendix G – About ISACA
\textsuperscript{15} Such as ITIL\textsuperscript{®}, ISO/IEC 20000\textsuperscript{®}, ISO/IEC 27000\textsuperscript{®}, ISO/IEC 31000\textsuperscript{®}, PMI’s PMBOK\textsuperscript{®} for example
Figure 2.2 Architecture