

# Enterprise Risk Management: A New Philosophy

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**Abstract**—There is a need to develop a risk management model for generic Operational Support Systems (OSS), preferably implemented on top of the eTOM framework. On closer inspection of the the eTOM framework it was discovered that risk management was virtually non-existent. After considering existing risk management solutions such as the COSO Risk Management framework and various others, a need was identified for a new risk management paradigm. This paper presents the solution offered by the authors to serve the needs of not just the telecommunications industry, but any industry in need of a simple, logically structured risk management methodology.

## I. INTRODUCTION

The task to model risk management in OSS has proved to be quite daunting for a number of telecommunications companies, [1]. This is particularly true because of the stringent requirements not only to measure the values but also to prove the adequacy of the underlying RM process. The decision was made to develop a new risk management modeling framework from scratch, rather than using existing solutions which were deemed not to be appropriate or complete.

## II. BACKGROUND

### A. eTOM

In the telecommunications industry there exists a business process framework commonly called eTOM (enhanced Telecom Operations Map<sup>TM</sup>) developed by the TeleManagement Forum [2], Figure 1. It provides a reference framework for categorizing the business activities of a generic telecommunications enterprise. The enterprise is modeled as having three major process areas:

- Operations
- Strategy, Infrastructure & Product
- Enterprise Management

The eTOM framework provides a business process structure for telecommunications enterprises from a high executive level view to a detailed view of the activity level. Its primary shortcoming in terms of risk management (RM) is that it relegates enterprise risk management (ERM) to a service function within the Enterprise Management block that is not fully integrated into the operational framework [3].

### B. COSO

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) tasked PricewaterhouseCoopers in 2001 to develop a framework that would be readily used

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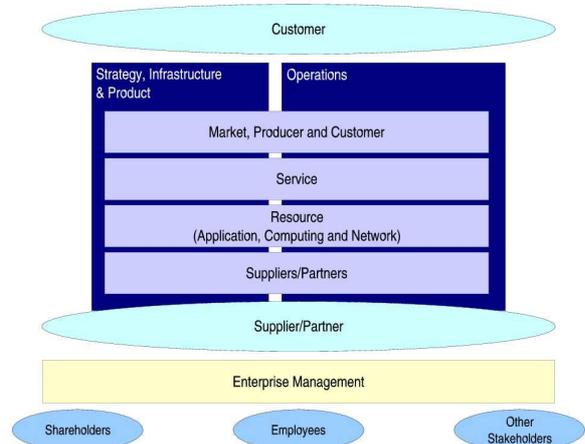


Fig. 1. Highest level eTOM overview.

by managements to evaluate and improve their organizations' ERM, [4]. This framework comprises four categories for an enterprise's risk management:

- Strategic
- Operations
- Reporting
- Compliance

Further, the COSO ERM framework is subdivided into eight components:

- Internal environment
- Objective setting
- Event identification
- Risk assessment
- Risk response
- Control activities
- Information and communication
- Monitoring

The COSO ERM framework provides a foundation for mutual understanding amongst all parties interested in ERM, [4].

### C. Alternative Risk Management Framework

The University of Johannesburg risk research group has propose an alternative RM framework. This framework differs from the above mentioned in that it is not sector specific at the outset. Rather the sector specific risks are defined after first determining which management perspective is employed (ERM for example), which type of section of risk is under scrutiny (financial, OSS, etc.) and which mechanism of risk, eg. OSS fraud and security, are relevant. These steps fall in three major sections as shown in Figure 2:

- Theoretical risk management
- Applied risk management

**LEVEL 3: ACTUAL ORM RISK MODELS AND REALITY + EXAMPLES: TELCOS**

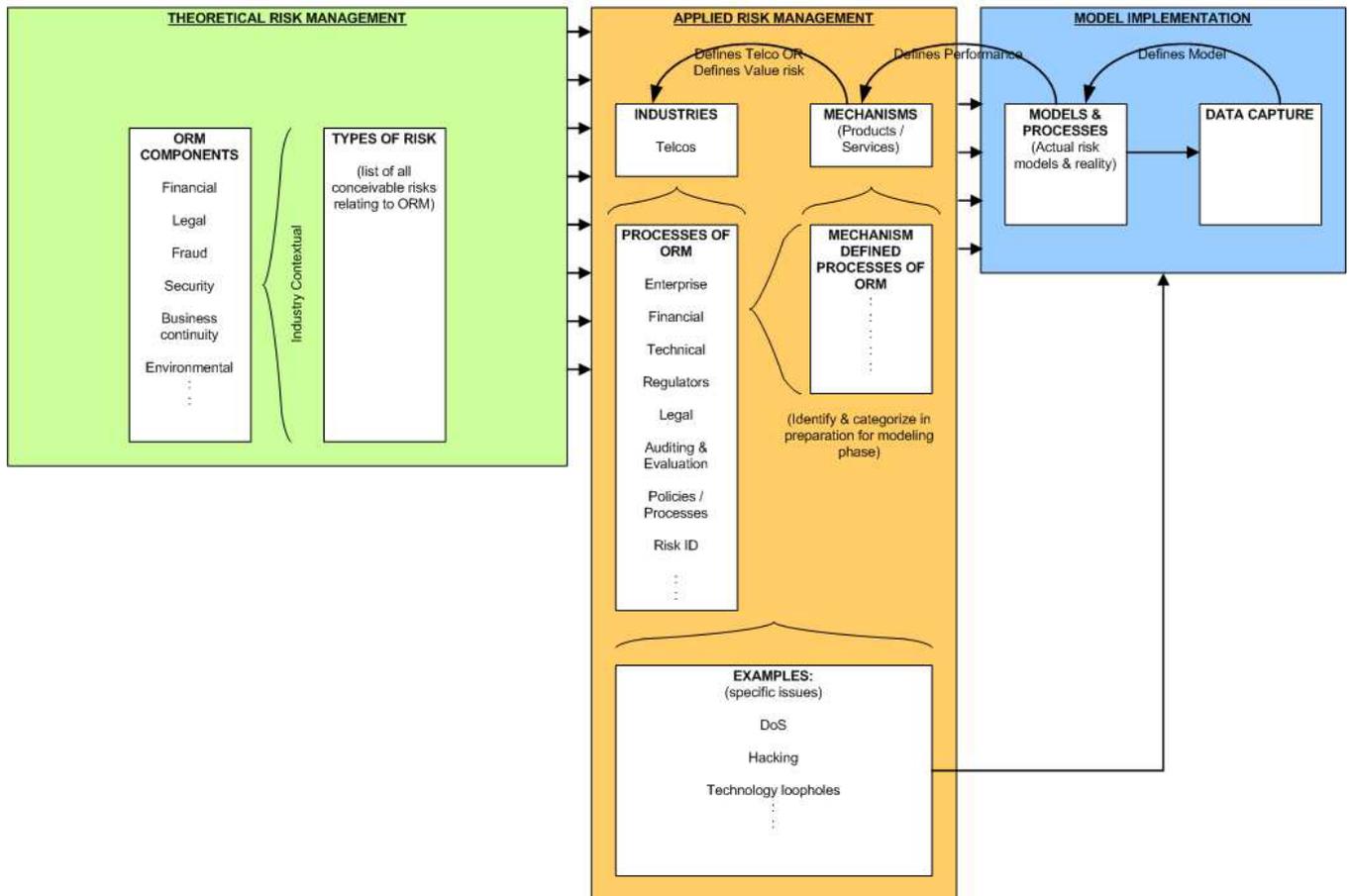


Fig. 2. Proposed RM framework: Lowest level.

• Model implementation

III. PHILOSOPHICAL PREMISE

The framework presented develops from an understanding that not only are the actual figures reported in RM terms (whether for Sarbanes-Oxley or King 2) important but perhaps even more important is the ability to ground the RM process firmly in a fully documented system. Combining the data level implementation features and the process level descriptive characteristics is potentially the only way to achieve the requirement of fully transparent ERM.

IV. FUTURE WORK

The proposed risk management framework of Figure 2 attempts to include all the categories and processes necessary to navigate risk reporting in the new business reporting paradigm. Only by extending the model is it possible to include in a unitary structure (to aid in reporting and compliance) all the elements necessary for a full ERM system.

During the next phase this skeleton will be used to model the ER of an emerging telecommunications company - and this implementation effort will obviously be useful in fleshing out details that are presently only philosophically proposed.

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