Chapter 5.17

Risks Evaluation and IT Audit Aspects of Business Intelligence Solutions

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ABSTRACT

Many organizations are struggling with a vast amount of data in order to gain valuable insights and get support in their decision-making process. Decision-making quality depends increasingly on information and the systems that deliver this information. These services are vulnerable and risky from security aspects, and they have to satisfy several requirements, like transparency, availability, accessibility, convenience, and compliance. IT environments are more and more complex and fragmented, which means additional security risks. Business intelligence solutions provide assistance in these complex business situations. Their main goal is to assist organizations to make better decisions. Better decisions means that these solutions support the management of risks, and they have a key role in raising revenue and in reducing cost. The objectives of this chapter are to give an overview of the business intelligence field and its future trends, to demonstrate the most important business intelligence solutions, meanwhile highlighting their risks, business continuity challenges, and IT audit issues. In spite of the fact that this chapter focuses on the business intelligence solutions and their specialities, risk management and the related IT audit approach can be applied for other categories of information systems. IT audit guidelines, best practices, and standards are presented as well, because they give effective tools in controlling process of business intelligence systems.

INTRODUCTION

Organizations are overloaded by huge amount of data continuously, about their customers, their operation and business, environment and partners. We live in a fast changing environment, where we use several online services, like e-banking, e-learning, online travel services, e-grocers. All these transactions generate lots of data. Companies get too much data too fast and there is a strong need to manage it, to reveal insight from it and to make it more useful, actionable. Business intelligence can facilitate this process through several services.

The objectives of this chapter are to give an overview about the most important business intelligence solutions, to display their development and implementation, to demonstrate their risks and audit issues, meanwhile emphasizing their business continuity challenges and monitoring. This chapter provide answers for the following research questions:

- What are the main roles of business intelligence at organizational and personal level?
- What kind of risks and challenges have to be managed at the field of business intelligence, especially regarding its business continuity?
- What are the critical challenges in business intelligence success?
- What are the future trends of business intelligence?

First part of this chapter presents business intelligence overview, with special attention to data warehouses. Business intelligence solutions provide rapid results from various data sources in order to support critical processes. Data warehouse development has special characteristics, which are highlighted and compared with other more traditional development methods in this chapter. Business intelligence solutions are generally organization-wide, so number of users interacts with them; apply them as a key supporting tool in their decision making. They are inseparable from organization's operation, so their business continuity is a critical issue. Most of them, especially data warehouses are large-scale, expensive projects, with several, interrelated risks. These risks can threaten the success of the projects, so they have to be assessed and managed in the business intelligence projects to avoid further difficulties. Most of the risks can be found in other IT projects too, but they can cause more trouble here, because business intelligence projects affect the whole organization and they are costly. Risks and business continuity challenges of business intelligence solutions are discussed in the second part of this chapter. Most important features of business continuity planning are demonstrated as well. IT audit has a special role in this situation, because it can support the risks identification and mitigation. One key question is, what areas should be audited and how. The third part of this chapter summarizes the risk-based audit approach and demonstrates what areas are important from auditing aspects. IT audit of information system's business continuity is presented too. IT audit guidelines, best practices and standards give effective tools in controlling process of business intelligence systems. Management needs to get business intelligence solutions under control, which can be guaranteed by a control framework. Standards for IT management and security are crystallized by consensus or compromise from best practices discussed by a large group of individuals from various organisations. Fourth part of this chapter deals with IT audit guidelines, best practices and standards. In many cases these standards overlap each other; therefore their relations are presented with special attention to IT governance-related issues. Risks evaluation and management of business intelligence solutions based on IT audit guidelines is the subject of the fifth part of this chapter. Finally, in conclusion part of this chapter; future trends of business intelligence solutions,

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