

Chapter 7

IT Audit for Information Logistics

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ABSTRACT

The main goal of the chapter is to consider how information logistics in business organization is supported by standards and best practices of auditing. The first part of the chapter covers the discussion of what information logistics is and how it is developed within and supported by business organizations. The second part comprises considerations on Information Systems Audit and Control Association (ISACA) information technology audit standards and practices that support information logistics development and realization. Particularly, CobiT, ITIL, ISO/IEC 27002, Val IT as well as the Sarbanes-Oxley Act and ITAF model are analyzed in the aspect of information logistics. The third, and last part covers presentation of information logistics development in data warehousing and data warehouse management and auditing problems.

INTRODUCTION

Control and audit of information systems are becoming increasingly important due to the competitive impact of information technology (IT). In fact, information systems are critical for the general functioning of our society and information is confirmed as the business organization's most valuable

asset. Another important aspect to be taken into account is the amount of IT resources expended by business organization departments. Business units have difficulties with appropriate management of information. Nowadays they do not lack it, but quite opposite, the information overload seems to create the challenge of information logistics. Therefore, it is assumed to support the information governance and organizational decision making.

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BACKGROUND - INFORMATION LOGISTICS

Logistics

Logistics encompasses the integral control of material flow and the integration of all decision making concerning the flow of materials. The goal is to optimize the behavior of the total systems instead of optimizing parts of the system logistics (Gerrits, 1995). Logistics is concerned with the organization, movement and storage of materials and people. The term logistics was first used by the military to describe the activities associated with maintaining and fighting force in the field and describing the housing of troops (Ghiani et al., 2004). Over the years the meaning of the term was gradually generalized to cover business and service activities. A fundamental characteristic of logistics is its holistic integrated view of all the activities that it encompasses. Logistics mission is to get the right materials to the right place at the right time, while optimizing a given performance measure (e.g. minimizing total operating costs) and satisfying a given set of constraints (e.g. a budget constraint). In this context, the information logistics must concern information provision to the appropriate recipients at the right time. Information must be actual, complete, readable, protected and verifiable. The key issue is to decide how and when raw data, semi-processed data and information should be acquired, moved and stored.

Logistics is responsible for the flow of materials through a supply chain. It is the time-related positioning of resources there. The supply chain is a sequence of events intended to satisfy a customer. The information logistics managers feel to be responsible for the achievement of two goals. The first is to move information through and out of the organization as efficiently as possible. The second aim is to contribute to an efficient flow through the whole supply chain. There are several measures of efficiency, including fast deliveries,

low costs, little wastage, quick response, high productivity, low stocks, no damage, few mistakes, high staff morale, and protection of integrity of information, applications and IT infrastructure. They are all indicators rather than the real aims, because the real aim is the satisfaction of the information consumer i.e. end user.

Information supply chain is a complex logistics system, in which raw materials (i.e. data) are converted into information products (e.g. decisions) and then distributed to the final users (Waters, 2003, Sadler, 2007). It includes data supplies from different sources, data centers, data warehouses and decision support systems. In the information processing systems, data is cleaned and ordered to be put into the data marts and data warehouses. The distribution system consists of the data distribution centers and final terminals for end users. The core logistics issues are the design and operations of data centers and transferring points.

Traditionally, in products' logistics products flow through the supply chain from raw material sources to customers, information follows a reverse path. It traverses the supply chain backward from customer to raw material suppliers. However, not always it is true. Rather, it is noticed, that production and information flows cannot move instantaneously and be transferred simultaneously through the channels. First, freight transportation between raw material sources, production plants and consumption sites is usually time consuming. Second, manufacturing can take a long time, not only because of processing itself, but also because of the limited plant capacity. Finally, information can flow slowly because order collection, transmission and processing take time. Although people would like to have the processing of information and products simultaneously done, in practice there is a certain dispersion among these activities, lack of synchronization of them, weaknesses in scheduling, but because of the development of virtual organizations there is a strong pressure to implement asynchronous processing of information and

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