



CENTERIS 2012 - Conference on ENTERprise Information Systems / HCIST 2012 - International
Conference on Health and Social Care Information Systems and Technologies

A solution for real time monitoring and auditing of organizational transactions

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Abstract

The controlling and auditing of organizational transactions in real time allows to determine the degree of reliability with which they are carried out, mitigating the organizational risk. This paper presents a solution proposal under a new vision for organizational auditing and monitoring in real time since it is focused on the implementation of continuous assurance services in organizational transactions in compliance with the formalisms of a business ontological model. Furthermore, this paper contributes for a new paradigm of the transactional auditing, which is intended to be at a very low and detailed level of organizational transactions.

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Keywords: organizational transactions; management information system; continuous assurance; monitoring; auditing; real time; risk profiles;

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1. Introduction

Currently organizations are facing several challenges, for example their organizational transactions have grown in volume and complexity and they are living in highly regulated business environments. Thus, controlling and monitoring mechanisms are needed in order to evaluate and validate all transactions, in a comprehensive manner, to meet the controls and regulations. However, the traditional audit process occurs mostly after the completion of transactions, since it is not feasible to audit them in time. Thereby it makes it possible to inhibit the risk associated to their execution. Therefore, for many organizations there is a significant risk of errors and fraud and these are not detected in time, resulting in a negative impact on organizations. See, for example, the current global financial crisis and successive well-known scandals in some organizations, such as Lehman Brothers, A-Tec, Madoff, Kaupthing Bank, WorldCom, Enron, Parmalat and Tyco cases and many others [1-4].

Thus, any organization must be sufficiently prepared to survive, regardless of exposure and of the large number of risks it is subject to, by implementing a suitable system of Continuous Assurance in accordance with applicable legislative and regulatory framework. Continuous Assurance has been assuming an important role within the organizational context because it is the application of emerging information technologies to the standard techniques of auditing. "Continuous" does not mean real time, but it means to be effective, considering and being consistent with the pulse and rhythm of each organizational transaction and process [5, 6].

These aspects have propelled to create a new awareness of corporate governance and of the growing importance of monitoring and controlling the various organizational transactions (that is, any activity performed within a business process). Along with this evidence, a study by PricewaterhouseCoopers [7] examined various organizations and concluded that about 89% of participating organizations intend to adopt more solutions of continuous auditing and monitoring by 2012.

1.1. Motivation

Given the foregoing, it is necessary to find solutions which allow organizations to evaluate, monitor and validate their transactions continuously and independently, preferably in a non-intrusive way. The optimization of the operational performance will be also possible if this auditing is done in real time (in the shortest time possible after its execution), reducing in this way the associated risks.

Alongside this, there is another aspect to consider in relation to organizational transactions: risk profiles. In this context, risk profiles refer to the classification of different types of behavior that may occur in the execution of one transaction. In this work, two terms are considered to characterize risk profiles: negative profiles, which refer to all unwanted behaviors during the execution of transactions, for example incomplete or poorly executed operations; lack of crucial procedures; non-conformities; delays; incongruities and malfeasance and positive profiles, which refer to all valid and appropriate events [8, 9].

Thus, this paper focuses on answering to the implementation of real time assurance services, having as support the organizational transactions according to an ontological model of organizational transactions. An ontological model is important because it helps to understand the essence of the organizational transactions and processes and their relationships and characteristics. In parallel, a simpler business view, detached from any ontological representation, results in the inability to generate organizational knowledge [10]. Therefore, this work intends its prototype to be a system with a broader and detailed vision of organizational processes and transactions, thus respecting the formalities of an ontological model capable of representing the organizational reality. The work presented in this paper is supported by "Enterprise Ontology", the model proposed by Dietz [11]. This model is adapted to represent the essential structure of the organizational

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