

# Virtual Enterprises' Accounting Difficulties

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## INTRODUCTION

The growth and expansion of enterprises into foreign markets presuppose the aggregation of financial information that includes non homogeneous elements. The purpose of this article is to present several accounting difficulties deriving from the establishment of virtual enterprises and consequently, to set some relevant management and cultural aspects. Emphasis is, also, given to the analysis of the accounting recognition and measurement difficulties deriving from recording accounting information in a virtual enterprise. In conclusion, although there are accounting, as well as, auditing problems of defined, measured and disclosed in a such a type of business, its importance will increase as the capital market grows.

## BACKGROUND

The development of technologies that can efficiently handle information, combined with the expansion of Internet for business process integration, will have a considerable impact on the worldwide market place. This information technology evolution will lead to the creation of a new economic paradigm, the virtual enterprise, where sets of economic actors are combined to provide a service

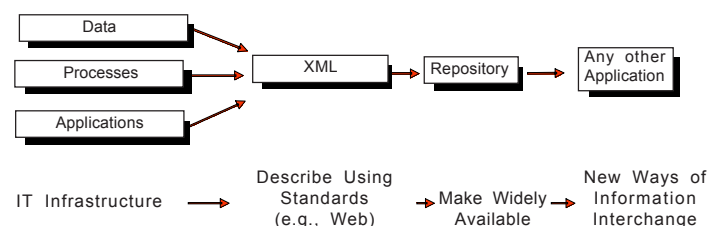
by a single enterprise. Virtual enterprises have very limited resources of their own, but can achieve substantial outcomes using accessible resources of independent partners that become interdependent in achieving the virtual enterprise goals in their common interest. (Beckett, 2003).

One of the main research and development themes is the problem of the virtual enterprise integration, which means the task of improving the performance of the whole organization by managing the interactions among the participants. Its main objective is to improve teamwork and coordination across organizational boundaries (Zarli & Poyet, 1999) by increasing the effectiveness of the virtual enterprise as a whole (Figure 1).

Integration of an enterprise consists of putting components together to form a synergistic whole that transcends traditional external and internal corporate boundaries. Enterprise internetworking uses electronic network to form close ties with suppliers, distributors and customers (Ho, 1997). Problem solving and decision making are conducted by flexible teams cutting across the individual enterprises and distributed over time and space. It is a combination of horizontal integration for a better control of material and information flow and a vertical integration for efficient control of the decision flow.

An integrated virtual enterprise should, also, be able to overcome the changes in the internal or external envi-

*Figure 1. Integration process*



ronment and enable all the components to contribute to the overall objective in a coordinated way. The enterprise must react to the changes and accordingly adapt its operations.

In selecting the partners for a business opportunity in a virtual enterprise, there are many factors to be taken into consideration. These factors include cost, quality, trust, credit, delivery time, and reliability. (Wu & Su, 2005). The design and management of an efficient and flexible virtual enterprise is a very complex task. It involves different approaches regarding technology, management and cultural elements. High quality business process in an integrated business chain requires properly designed operations. Moreover, it is necessary to use methodologies, reference models, information infrastructures and computer enterprise engineering tools that help in the coordination of different objectives during the virtual enterprise design and management.

An important issue to consider is accounting services of the virtual enterprise specifically when the enterprise spans the boundaries of a country including partners from different continents with very dissimilar accounting standards.

## **ACCOUNTING ISSUES IN VARIOUS VIRTUAL ENTERPRISES ORGANIZATIONAL MODELS**

Virtual enterprises refer to enterprises that consist of groups of people working together on an undertaking, regardless of their physical location, across enterprises and countries (Bobek, Potocan, Sternad, & Spicka, 2002), in real time (synchronously) or deferred time (unsynchronously). A virtual enterprise is a temporary organization of companies that come together to share common costs and skills to address business opportunities that they could not undertake individually. (Gou, Huang, Liu, & Li, 2003). Their existence will challenge large traditional corporations by being able to set up and offer a wider scale of innovative services with less capital in less time and with considerably less financial risk. Aside from competitive advantages, this new organizational model could, also, have other social side effects like, less office space, increased staff productivity and differently balanced work and employees' family life.

Although the idea of virtual enterprises is still in its infancy and every virtual enterprise works under its own agreements between the partners, the virtual enterprise organizational models can be categorized in three types: The supply chain, the hub and spoke (or more commonly referred to as the star), and the peer-to-peer models.

Concerning accounting, the valuation of expenses and revenues for reporting purposes depends upon the reporting objectives and concepts applied. In this case, if the objective is to measure and report the individual assets of the firm for each period, the only alternative is to measure the value of the firm as a whole and subtract from this value the valuation of other specific net assets (Tahinakis, Protogeros, & Ginoglou, 2004). However, if the objective is to measure and report specific assets, in order to provide the users of the financial statements with an indication of the resources available to the firm, an independent measurement of the intangibles might be desirable.

Peer-to-peer topologies and star topologies seem to be the most prevalent for virtual organizations, while supply chain topologies might not require special relationships between companies. The main virtual enterprises categories are:

### **Static Virtual Enterprises**

In static virtual enterprises (SVE), a set of business partners are linked together in a static and fixed way, for example, the shared business processes are tightly integrated (Caraminha-Matos & Afsarmanesh, 1999). The business relationships and the process interfaces are predefined, tightly coupled, fixed, well integrated and customized among partners. The network is fixed and predetermined and thus the structure of the virtual enterprise is static and predetermined as well. Based on the distribution and management style of the network, two types of static virtual enterprises can be identified, namely centralized and decentralized.

The accounting difficulty is connected with the expenses that become a particularly important part for the enterprise. In this case, accounting for the costs requires careful analysis of the department activities. Usually, enterprises undertake costs in the hope of future gains, rather than only present benefits. The knowledge gained is either an asset of the firm or an increase in the value of the existing assets. The return on capital employed will only give a true measure of the company's profitability, if the deferred development expenditure is included in the capital employed (Garrison & Noreen, 2002).

### **Centralized Static Virtual Enterprises**

In centralized static virtual enterprises (CSVE), a dominant business domain (also called business integrator) coordinates the business relationships among network members (Caraminha-Matos & Afsarmanesh, 1999). It

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