

## Chapter 5.22

# Consortium Agreement Template for Virtual Enterprises

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### ABSTRACT

This chapter addresses the contractual legislation problem as an integration problem within the virtual enterprise context. In order to address the problem in a real legal platform, we create an example of a consortium agreement template based on the existing Portuguese legislation. The legislation is no more than standard procedures and guidelines to address an organization's formalization within the legal system and society. Looking through the existing Portuguese legislation, as an example, we found a way to legally fit virtual enterprises (VEs). Moreover, we propose a consortium agreement template as a preestablished standard agreement to legally support VEs before specific legislation is created. We propose that the enterprises, when joining a market of service providers, would automatically accept

this consortium agreement template in order to more rapidly become a partner in a VE as soon as business opportunities arise.

### INTRODUCTION

There are some similarities between virtual manufacturing cells and VEs. A manufacturing cell is a collection of machines organized in the same location in order to produce a family of parts; and this concept is normally associated with group technology. Several studies have shown that cellular manufacturing improves production performance (Kadipasaoglu et al., 1999; Shambu et al., 1996; Wemmerlov & Johnson, 1997). One of the main advantages of this type of shop floor configuration is related to the fact that it results in a significant reduction of setup time. On the

other hand, dedicating a group of machines to a certain family of parts normally results in unbalanced utilization of resources when changes in demand occur (Kannan & Ghosh, 1996). Rearranging manufacturing cells to follow fluctuation in demand it is not an easy task, because moving machines around takes time and costs money. One solution is to keep the machines in their locations and dynamically assign them to virtual cells, as it better suits the actual needs. These cells do not exist physically, they only exist for scheduling and routing purposes. In this way, we can keep the advantages of reducing setup times without losing the balanced utilization of resources (Kannan, 1998).

Manufacturing cells cannot be looked at only as a group of machines; people are also included in these systems. Some authors argue that the gains that can be obtained by cellular manufacturing are enhanced by the fact that the people involved in the cell develop teamwork with great benefits to the cell performance. Those benefits are not achievable by virtual manufacturing cells (Suri, 1998). This handicap must not be underestimated in VE environments.

To a certain extent, a VE can be looked at as a virtual cell; the main difference is that in one case, the units are machines, and in the other case, the units are enterprises. A VE is a group of enterprises that can rapidly get together to respond to a business opportunity, and normally this cooperation does not last for long. In this way, the benefits that could be obtained by the teamwork will not be achieved. Each VE member does not move to a location next to the other members, because new configurations for VEs are always needed. One of the main lessons from this knowledge is that VEs do not have only advantages and there is a long way to go before they are commonly established.

It is reasonable to assume that a new company specifically designed for a new product will perform better than any existing company (Putnik & Silva, 1995). Existing companies were

designed for existing business opportunities, so it is understandable that in the presence of new businesses, new products, and new demand patterns, new companies especially designed for a specific purpose, would perform better. All that makes sense, but we must keep in mind that any new business has its window of opportunity, so the speed in building the enterprise that will efficiently respond to that business opportunity is a crucial issue. Well, how fast can a new company be ready to effectively respond to market needs?

Creating a new traditional company takes a considerable amount of time, and in many cases, it cannot be the answer to the market dynamics. In many cases, the window of opportunity for a particular business is so short that a new traditional company cannot be built in time. In some cases, such as construction of bridges or roads, the problem is solved by assigning the project not to a single company but to a consortium of different companies. This consortium solution could be seen, to a certain extent, as a VE. The VE paradigm has been addressed as the solution to effectively respond to new business opportunities. The right collection of small companies may be, as a whole, the perfect company in responding to a particular business opportunity. Selecting the right set of companies and putting them to work together in the same project cannot also be done overnight. This process also takes time and is far from being easy. There is an interesting paradox around the VE issue: building a VE is a time-consuming task, but it is created to respond rapidly to a new business opportunity. While a traditional company already exists when the business opportunity arises, a VE must be created after the business opportunity is known.

## **VIRTUAL ENTERPRISES INTEGRATION**

Although the idea of creating dynamic networks of enterprises to respond to the needs of agility

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