

## KEY MODELS FOR VIRTUAL ENTERPRISE. BASIC ASPECTS FOR TODAY'S FIRMS' MANAGEMENT SYSTEMS

Cătălin POPESCU

University of Petroleum and Gas of Ploieşti, Romania

**Abstract.** On one hand, a Virtual Enterprise is a simulated business that is set up and run by people to prepare them for working in a real business environment. In respect with this, a Virtual Enterprise offers to the people the opportunity to experience in a simulated business environment all facets of being an employee in a firm. On the other hand there is a new approach that considers a Virtual Enterprise represents a new structure that could help in a challenging and a very dynamic environment. Therefore, knowing models concern virtual enterprise could help in understanding how today a company could be ran by using different approaches of management systems.

**Keywords:** virtual enterprise, models, business environment, management systems

### 1. Introduction

The world has changed dramatically in terms of national economies and the globalisation approach. The new movements concern the markets require new types of organisations. Perhaps the most important feature of our days is concern the lack of balance between the offer and the demand and the impossibility to cope the demand with a proper offer. In order to face out with the markets development every enterprise need to build a particular organisational structure which has to deal with the cost optimisation. Therefore the management of organisations have to think to flexible structures which could allow adaptation to the requirements asked at any time.

A good solution to this problem refers to a new concept called *virtual enterprise*.

The definition of this concept was give in "The Economist" review from 6<sup>th</sup> february 1993 in a special paper which consider that the virtual enterprise is a temporal network of enterprises which are linked to exploit a particular market opportunity and which is supported by the technological capabilities of the members.

In fact, each member from the network contribute by the added value give by own expertise in a certain domain. The technological capabilities mentioned above are looking to each member main competences. In this situation the important issue is the partnership between the members of the same network.

As a brief description of main parts of the virtual enterprise we could mention:

- the core business;
- the strategic alliances;
- the subcontractors.

In order to use and exploit the main advantages of these structures we need to underline some important arguments:

- an enterprise has to focus only on few main activities where in fact the enterprise prove the excellence in business;
- an enterprise has to focus on identifying other complementary enterprises which could help them in a very competitive environment;
- some of the activities could be carry out by some other enterprise that are accepted by the members of the network in order to gain time and save money.

### 2. Some structural features for the new approach

The features are presented in order to explain the importance and the advantages of implementing such organisational structures:

- *the excellence*, based on the fact that each enterprise has to contribute to the whole with her own expertise;
- *the opportunity*, in order to exploit a particular market opportunity arise for the virtual enterprise from the present conditions;

- *the confidence*, because each one from the network is linked from another one and therefore, is necessary that any member has to be full assisted from every participant in the network,
- *the technology*, in order to use and share the most high technology that exist among the members.

Perhaps anyone that is not familiar with this concept is wondering why the virtual enterprise approach could help companies in a very competitive environment. For this, based on some ideas gave by some Romanian managers that tested some new organisational structures, I may conclude:

- the new structure is more oriented to the consumer and to his needs (actually the new structure respond to a market opportunity);
- the new structure is more dynamic and more flexible, depending of markets changes;
- the new structure it is focused on excellence, in order to supply a better quality for the product or for the service;

For a better understanding of the approach we could use the notion *synergy*, in order to exploit the interactions of the parts of the whole new organisational system and create an additional and important value for the entire system that could be capitalize in the benefit of every member. Is easy to understand that we share the resources brought by any member of the community, we put together everything we have and we use in common what we build or create. By this, we could develop the aim of this partnership: a competitively organisational structure (based on low costs and high benefits).

### **3. Some risks and difficulties to develop and implement the virtual enterprise**

We have to be aware that is not so easy to start to create and develop this kind of structures.

First of all, is important to select in a proper way the partners for the virtual structure. On the other hand is necessary to promote the team spirit for the network, issue that could be considered one of the most difficult to fulfil. Also is required a concise and clear content of the objectives for the new structure. This is necessary because we try each within companies to improve the link between performances and motivation. Finally, is possible that the network's partners do not communicate enough or in a common language for anyone and therefore some information channels will be obstructed. This could represent a first step

in cancelling all the good results obtained from the organisational synergy effect.

### **4. Practical solutions for use a virtual enterprise**

As is mentioned above in the paper, we have some practical solutions to exploit the advantages of virtual enterprises.

First of all, we could create strategic alliances, as a temporal structure of enterprises, based on stability, long term partnership to exploit a particular market opportunity. It is obvious that this proposal has some important advantages such as:

- global or much more wider solutions for the customers;
- using the partners' infrastructure is much more easier to interact with the customers and their requirements;
- the benefits are much more important for each participant because we speak about a much more bigger business volume and a much more profitable activity (the cost structure is optimised);
- there is a common responsibility among the partners.

Also is necessary to speak from the point of view of the risks:

- is it possible that one or more participants to fulfil only some activities or functions and this, overall could lead to less profit and more costs;
- the objectives could vary from one partner to another one;
- lack of patience in order to wait for some good results.

Also we could speak as another potential solution that could be used in practice to create a Enterprises Temporal Union (ETU) as a collaboration (without own juridical personality) between different companies on determined or undetermined time, carry out for some activities or services.

Of course, we could emphasize some benefits such as for these structures the objective is concrete and clear because we choose the partners in relation with the market requirements and in connection with international movements.

By this kind of structure we do not need a very important budget because we do not finance activities that did not create an additional value to our project.

## 5. Methodologies used in practice

In fact, the change processes from traditional enterprise structure to virtual enterprise could use many methodologies or systems. The most important are: Transform<sup>TM</sup> Methodology, ABC and ABM systems, balanced scorecard, Kaizen method, Benchmarking technique or TQM approach.

In this section it will be presented Transform<sup>TM</sup> Methodology. This methodology represents a systematic method by which the main participants get required competencies to carry out profitable the function in order to obtain the skills in using change management tools. These tools refer to:

- *change cube*;
- *change curve*, in order to visualise the change project trajectory;
- *change chain*, which is the process composed by 4 steps: the vision, the decision, the action and the extension.

To understand better how the methodology could be use in practice these steps are detailed as follows.

The vision intends to present a convincing image of the enterprise future. This is possible after the people involved in this process identify and eliminate all he uncertainties.

The decision refers to the actions planning which allow that the objectives stated in the vision to be fulfilled. In this stage is necessary to establish what have to be changed, when is the proper time, how could the change have to be achieved, who is responsible for the change.

The action is the changes introducing process which is refer to activities required to put in practice the decision established at the above paragraph.

The extension looks to the support and strengthening processes of the progress for the whole organisational system. The extension has to justify all the changes made and also has to prove the necessity for a permanent improvement of the structure of the entity. Although this methodology looks easy to be implemented in any modern organisation is important to underline that the process itself is quite long in time and reach in difficulties.

## 6. COSMOS structures

Cosmos structure represents a concrete and a very practical structure based on virtual enterprise approaches. This model was already used in many

important companies from USA, West Europe, Australia, Canada and Japan with good results. This part will explain the content of this model in terms of possible using this structure also in Romania at least for big companies from oil and gas industry (PetromOMV, Rompetrol, Romgaz, Distrigaz) or mobile telecommunications services (Vodafone, Orange, Cosmote, Zapp).

Cosmos model is a structure based on three groups of functions: basic (nuclear) functions, critical functions and necessities functions.

Nuclear functions of the structure compose the virtual structure core. In this category we could include: R&D, marketing or global management of the structure. These functions have some objectives such as:

- identify business opportunities;
- preparing the offer, in order to cover customers demands and requirements;
- establish and maintain the contact with the customers;
- global management of the virtual enterprise in terms of efficiency.

Basic functions require a special attention from the management because is necessary to capitalize any performance developed by the structure. First of all we speak about Research&Development function. Refer to this here are the most important issues:

- *identify the customers* for research and develop the structure according to customer's requirements and also related to general trends concern consumption;
- *technical knowledge or expertise*, which allow to approach projects with the guaranty of success and for which every component has to be updated according to the new technologies;
- *technological resources support*, in order to maintain for any new project a proper level for profitability and efficiency;
- *the creativity*, which could allow a competitive advantage on a very competitive market.

Secondly, we need to speak about marketing in general and especially about direct marketing. If the general approach of the marketing is very well known by anyone is involved more or less in marketing processes, the issue concern direct marketing represent a subject quite new for many countries. If we try to define this concept we could use the definition gave by Direct Marketing Association from USA: "...is the interactive marketing system which use one or more communication means to obtain very good

responses from the customers..." This definition helps in terms of set up main objectives for the virtual enterprise builded on the Cosmos structure approach. Is about, first of all, in maintaing a direct and permanent contact with the customers which is a key problem of present days. Also, we need to explore as well as we can the sale/ distribution chanel; we need to focus on sales points and open/develop new geographical areas for our products or services.

If we look at critical functions we have to focus first of all to sale function because this function represents direct relation with the customers and their requirements. This function is useful in control for management in order to achieve the main objectives for the virtual enterprise which refers especially to high profits, low costs, proper motivation for the employees and not at the end the fulfilment of all customer's necessities and requirements.

Other important critical function is logistics. As many experts wrote already on the supply chain is turn up many problems which finally lead to an increased price that has to be supported by the customers. This issue could be solved by using the Cosmos structure that allow an optimisation concern the costs provided on the supply chain. Finally we have to count the production function as a critical function in order to cope offer every time and in any condition with the demand.

Of course in any company and of course in this virtual enterprise we have to present what is the content for the necessities functions. Therefore is compulsory to design adequate services such as: maintenance, informatics, repairing, and administrative tasks.

As a final conclusion, we could say that in a very dynamic and competitive environment, in a world of globalization, in a world of preservation and environmental protection, in a world with the

natural resources in an evident decreasing trend, solution for many companies is to rebuild a new organizational structure after the virtual enterprise framework or model. This is true in many domains and especially in the case of oil and gas industry because, first of all, if we look to the oil and gas international markets and secondly, in relation of the theme of horizontal and vertical integration of the industries, we could speak about a whole system from upstream to down stream or starting with inshore investments and finishing with offshore capabilities.

## References

1. Burke, R.R.: *Virtual Shopping: Breakthrough in Marketing Research*. Harvard Business Review, march - april, 1996, p. 120-131
2. Cuesta, F.: *Virtual enterprise. COSMOS structures. Instruments and solutions for enterprise transformation*. McGraw Hill, ISBN 84-481-4588-7, Madrid, Spain, 2006, p. 43-129 (in Spanish)
3. Cuesta, F.: *Direct marketing management*. McGraw Hill, ISBN 84-481-0826-4, Madrid, Spain, 1997, p. 141-156 (in Spanish)
4. Davison, W.H.: *Beyond re-engineering: The three phases of business transformation*. IBM System Journal, Vol. 38, N° 2&3, 1999, p. 485-499
5. Lawless, M.W.: *Generational Technological Change: Effects on innovation and local rivalry on performance*. Academy of Management Journal, 1996, Vol. 39 n°. 5, p. 1185-1217
6. Porter, M.E.: *Competitive advantage*. The Free Press, New York, USA, 1985
7. Prior, T., Sahn, J.: *Using activity based Management for Continuous Improvement*. Ed. ICMS Inc. Arlington, Texas, USA, 1993
8. Savall, H., Bonnet, M.: *Implementing core competence strategies in a globalizing economy: a survey of socio-economics*. Proceedings of IFSAM Congress, Alcalá de Henares, Spain, 1998
9. Silong, H. et al.: *The era of cultural collision: an exploratory study about methodology basis of managerial innovations*. Proceedings of IFSAM Congress, Alcalá de Henares, Spain, 1998