

Nvos (Networked Virtual Organisations) and Other Forms of Networks Small and Medium-Sized Enterprises in the “Web” of New Cooperation Forms

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SUMMARY

The so called association-based systems are not new-fangled ideas; they have long been known in various economies. Nowadays network-forming is mentioned as a way of successful innovation, moreover, it is often assigned as a crucial condition of staying on the market. Although Hungarian journals have attempted to draw a picture of the benefits of networks for SMEs - as “appetisers” based on the examples of developed market economies - since the 1990s, the interest of Hungarian entrepreneurs has been rather meagre. However, this situation seems to be changing slightly. The indifference of SMEs, especially in the knowledge-based sectors has now been replaced by perceptible interest.

This article – focusing on the latter circle of enterprises – seeks to answer the following questions:

- *What are the realisations and typical motives of the recent interest of SMEs in forming networks?*
- *What are the main goals and advantages of forming networks for SMEs in Hungary?*
- *What type of networks would be the most efficient for this circle (considering the characteristics of domestic enterprises)?*
- *What are the most effective tools and solutions assisting SMEs in becoming acquainted with modern networks and joining them adequately?*

INTRODUCTION

As mentioned above, systems based on associations have been in existence in different economies for a long while. What has put the issue into the centre of contemporary cooperation of economic organisations in developed economies is the uncountable possibilities offered by information technology. There are several different kinds of networks, but their common characteristic is the small and medium sized entrepreneurial structure. Forming networks among SMEs has recently been described as the basis of successful innovation, yet it is also mentioned as the principal condition of being on the market. Numerous articles, studies and surveys have been published for quite a long time in Hungarian journals which show - as appetisers, mainly through the examples of developed market economies - the advantages of forming networks. However, according to various researches and exact counselling experiences, the interest among domestic enterprises has been little. The main reasons of meagre interest are as follows:

- SME circles’ lack of information about the benefits of networks, and the inadequacy of information provision;
- the unpreparedness of the education system, training and further education (however, the compensatory possibilities of this field could be used efficiently to ease or solve the problems of providing information);
- one of the most serious problems is the financing of network-forming, for which solutions have not been found (not even for longer terms);
- the adaptation of foreign experiences in network building are inadequate, and the special features of domestic SMEs and the characteristics of entrepreneurial culture in Hungary are not always taken into consideration;
- the domestic SMEs’ willingness for innovation is little and the ones which would be ready for innovation do not form a ‘critical majority’ that could influence and encourage the spread of networks.¹

¹ According to the surveys of GKI-Economic Research Co., from the innovation point of view 75 % of SMEs in the industrial sector are inactive, approximately 22-23 % are innovative, but the proportion of those which actually form, elaborate and implement new ideas are only 2-3 %!

Most hindering factors are connected to the acceptance of the network as a possible way of establishing a system as well as to the insufficiency of network-organisation /see e.g.: (Buzás, 4/2000), (Imre, 2002), (Lengyel, 11/2001), (Lengyel, 2002) and various other researches/. An additional obstacle is the unwillingness of SMEs for innovation (see e.g.: the surveys of GKI and Szakály-led workshop at Miskolc University).

However, this situation seems to be improving nowadays as the indifference of small and medium-sized enterprises has begun to move towards keen interest, particularly among companies operating in the so called knowledge-based sectors (such as information technology, counselling, environmental protection, development of environmental devices, biotechnology, usage of modern, alternative energy sources, etc.).

My study focuses primarily on this circle, examining the possible, effective ways of network-forming.

THE BACKGROUND OF THE INTEREST OF SME CIRCLES IN HUNGARY AND THE OBJECTIVES OF FORMING NETWORKS

Forming networks has a number of advantages, such as:

- the possibility of obtaining information faster and of internalising 'external' knowledge;
- better chances of enforcing common interests;
- increasing competitiveness to meet the challenges of the global market;
- cooperation on the market, by which larger market share could be gained (regarding supply as well as market segment) and more chance for a possible entry to the international market;
- common R+D (research and development), faster and more efficient innovation (10);
- in certain network forms (clusters) the 'supplier status' becomes more stable more favourably;
- certain multiplicative effects which can contribute to the development and rise of an area or region;
- possibilities to compensate the disadvantages of SMEs deriving from their sizes, etc.

Despite these well-known advantages - as also mentioned in the introduction -, there has hardly been any interest in forming networks among domestic SMEs so far. There have only been a few active networks and clusters which could have been used as good examples.

Recently the interest and demand for networks and their benefits appear to be awakening among SMEs operating in the knowledge-based sectors. Seeing this interest

during our counselling work inspired us to do further research on this topic. According to our empiric surveys² from the area of counselling, this newly experienced 'revival' – besides the actual advantages – is connected mainly to three factors:

➤ One of the most significant impulse was Hungary's EU accession and the EU's invitation of applications (with their conditions), most of which only larger consortiums had a chance to win. This fact – not underestimating their possible effects – is merely a formal question rather than an actual content element of a network, if we look at the establishment of consortiums only by themselves.

Moreover, if they are seen as an inevitable 'threshold condition', not a project to be realised in a real integration, it might as well turn into a negative factor along with serious drawbacks. (In case of smaller enterprises it may also become a 'crisis factor'.)

Furthermore, it carries another type of 'danger' with itself. If an unsuccessful application rouses the feeling of failure in the participants of consortiums (for some objective or subjective reasons), the entrepreneurs who are otherwise willing to build networks might become reluctant to cooperate even in longer terms. The typical characteristics of these 'occasional or ad-hoc networks' – even though they only partly belong to the category³ of so called 'rushed networks' – cannot be disregarded. These characteristics are as follows:

- On the one hand, the participants' lack of competence in forming networks and cooperating within them, since most of them are set up 'forcibly' because certain financial sources can only be obtained this way, rather than building a network from the ground up primarily with the initiatives for solving problems coming from below, and apply for extra sources secondarily.
- On the other hand, the availability of resources providing the basis of long term existence of the networks. In most cases, appropriate own sources are not available, which means that all the money previously won by submitting applications are spent. Consequently, the 'promised' multiplicative effects cannot be realised fully.

To sum up, networks formed only for occasional applications and project proposals should be observed with precaution and decide later whether the gained 'network experiences' have increased the SMEs willingness and abilities for cooperation or not.

² We plan to do a more extensive empiric survey among innovative SMEs, of which pre-surveys are currently in progress. The most essential questions of our pre-survey cover the following areas: willingness for forming networks, interest in networks, network preferences, and the most common entrepreneurial attitudes regarding networks.

³ See their details in (Pikhala at al., 1999), their realisation in (Lengyel, 11/2001) and their systemizations in (Vilmányi, 2002).

➤ The other factor is connected to the unprecedented competition in the knowledge-based sectors. Nowadays there are more and more sectors in which constant renewal and the ability for innovation producing added value are vital conditions. Generally, independent companies (especially smaller ones) are incapable of keeping pace with the requirements of high-speed innovation. At the same time, SMEs operating in the sectors in question have to be able to adjust flexibly to the changes on the market, and develop continuously. This is why their views and strategies need to be altered in such way that they would be able to initiate the required knowledge and skills, capacity for development, know-how and other resources producing added value by means of their connections. For this, such new cooperation forms are required that can mobilise not only the internal but also the external problem-solving skills and creativity. The best tool to realise this appears to be the horizontally built networks integrating various skills and competencies. It is interesting that ‘network logic’ can also influence the operation within participating SMEs. Simply, network cooperation addresses other kinds of organisational and personal competencies and builds upon different things than the usual operation of an SME⁴. It is particularly interesting that the latter – at individual level – strongly needs personal risk-taking abilities, or private relationships while forming knowledge-integrating networks, and also intuition which may be able to answer to questions, such as who to turn to, who to persuade to join the network, etc. In addition, it requires, for instance, the ability of confidence-building between the organisation and its staff as well as flexibility backed by personal responsibility at work which guarantees that it does not turn into laziness or law-standard work.

➤ The third essential factor has been called into being by a new market demand and notion – although in the birth of some networks EU applications have played a significant role – which is likely to make a radical alteration in traditional market views and in organisational operation. This is the model of which can be said most generally that it would not be worth mentioning, not even at theoretical level, if the support and solutions offered by information technology (fast and secure data communication, database softwares which make the operation of a company faster, better arranged and information from both the customers and the suppliers more easily manageable - they could even be operated together -, data mining devices and other support systems backed by expert advisory panels,

etc.) did not make them real and easily accessible on a reasonable price for any enterprise.

The main point of networked virtual organisations (NVOs) is that the mentioned information technology services make it possible to initiate potential customers in articulating demands in such way that the actual needs (including single, individual ones) can be met faster, more accurately and more specifically. Moreover, by eliminating ‘market misunderstandings’, greater added value can be achieved.

It is important to outline two matters related to NVOs. The first is that their realisation could be highly favourable for SMEs in Hungary in order to compensate their disadvantaged situations stemming from their sizes (which seem extremely hard to catch up on, especially after the EU accession).

The unique business and operation model of NVOs differs from the traditional organisations in several ways. In the latter case, customers meet the new products at the first time on the market, whereas according to the NVO model, they can articulate their demands (related to the characteristics of the given product) with active participation before production. Furthermore, entrepreneurial associations set up especially for certain products or services are more flexible, consequently, the apparent market contradictions can be dealt with more easily and adequately in the virtual cooperation of different sized enterprises.

TYPES OF NETWORKS AND EFFECTIVE SOLUTIONS IN THE VIEW OF THE GENERAL CHARACTERISTICS OF DOMESTIC SME CIRCLES

In actual fact, the names of different network forms are not yet clear. Terms are often mixed up applying networks, clusters, regional association, university ‘knowledge centres’ and innovation centres as synonyms. However, what definitely seems to become clear is that in the systematisation of terms, the following factors have major significance:

- the structure of the network;
- the open or closed character of the network;
- the structure of the participants;
- the geographical area (macro, regional, local networks and/or clusters);
- the contents of the network (marketing, research and development, production, information- and knowledge-sharing, motivating, development-supporting and other networks).

⁴ See (Harrison, 2000) for this and similar type of connection-based and knowledge-integrating SME networks and their fascinating characteristics (from a different, interesting point of view).

If we look at any of the above factors, it is obvious that these elements are not separate; therefore it is well worth examining some of the components in details.

➤ The structure of a network can be vertical or horizontal. Vertical networks are usually 'held together' and led by a strong integrator organisation which is surrounded by other companies like a ring. Forming vertical networks is most typical of bigger companies and their supplier circles. However, this network-building form is unsuitable for solving every kind of problems and dealing with certain situations. According to a number of negative experiences, it can be said that networks built from the ground up, based on the equal cooperation of SMEs, e.g. networks specialized in common marketing, do not have good future prospects (especially not in domestic environment) if they are organised vertically. Not even if they find a 'reason' to appoint one organisation which would hold together, manage and coordinate the various tasks.

It is interesting - and unfortunately there are also some bad experiences for this - when the network-forming participants know that the only possible way to set up a common network is to base it on equal participation of their companies, therefore it has to be horizontal. In a network built this way, the indispensable coordinator and organisational tasks are undertaken by one of the participants, however, it is not at all unlikely that after a while this participant loses its neutral coordinator role and creates extra opportunities and benefits for itself, at the cost of the others. Relying upon these findings, it is evident that before building a network, it is advisable to consider which network form would be more favourable and efficient as well as identifying and laying down the principals and rules of operation (and even the values and ethical rules to be followed).

➤ We can also talk about networks and so called clusters on the basis of the structure of the participants and the open or closed character of the network. The table below attempts to show the differences between various types of network organisations by their relevant characteristics.

	<i>Networks</i>	<i>Clusters</i>
Membership	Pre-defined (closed)	Open
Ground of cooperation	Contracts	Social values
Character of cooperation	Based on cooperation	Based on cooperation and rivalry
Cohesion	Common business objectives	Collective vision
Participants	Companies	Companies, institutions, professional organisations

Source: (Szabolcs, 2002)

The above described differences point out that before initiating the building of a network, it is advisable to act circumspectly and think out carefully which network form would suit our objectives from the start. Undoubtedly, - besides the possibilities opening up new perspectives for SMEs - building networks has disadvantages and dangers as well. These negative experiences and unsuccessful beginnings can easily turn the currently forming interest of domestic SMEs to its 'wrong side'. (The entrepreneurs may pull back from the issue in fear of failure.)

➤ The content of a network very often determines the geographic extension as well (Maillat – Perrin, 1990). Obviously, companies within one industrial sector which are hoping to strengthen their market positions and are rivals but at the same time concentrated in the same geographic area can compete with other enterprises with a better chance if they form regional clusters (Lengyel, 2002). Building and operating a so called macro network – which might as well embrace the whole country – have reality only if it can achieve such goals of which regional basis is the whole area of the country and the partnership networks as operational conditions have already been realised.

One of the most excellent examples of a nationwide network system is the so called FIR (France Initiative Réseau) which has been in existence in France since 1998 and of which operation was regulated in 2001. (AFNOR NF X 50-771) FIR is supported by the state but is at the same time an independent network institution. Its aim is to animate small enterprises, support the establishment of more and more enterprises (partly to reduce unemployment), lead existing enterprises towards the road of development and to strengthen declining companies by setting up relevant funds and allocating them to SMEs in preferential forms (interest-free loans). On the one hand, FIR has guarantee licences and on the other hand it represents the participants joining the network.

The moral and financial background of FIR is a strong partnership system, including different ministries (particularly important member is the ministerial secretary of small enterprises), the Chamber of Craftsmen, Regional Centres and Offices, European Social Fund, Association of Depositors and several other large national and international companies and institutions. The latter provide most of the financial funds which are the basis of loans supporting the establishment of preferential enterprises and their animation and revitalisation. The FIR system is operated by the so called PFIL (platform of local initiations). Currently there are 237 active local organisations. The tasks of each local organisation are as follows:

- seek out and call together potential preferential entrepreneurs and guide them towards the partners of PFIL;
- define the needs of candidates (counselling, financial support, etc.), prepare a so called ‘folder’, a document containing the full material of the candidate and its later progress and achievements. The preferential loans have a major role in satisfying financial needs as they make it easier to obtain ordinary bank loans – if they are also needed. (In addition, the whole operation system of PFIL assists in utilizing various other forms of subventions, especially in the case of previously unemployed entrepreneurs.);
- PFIL also provides ‘patronage’ for the candidates, for example with such advisory participation which helps prepare the required materials (e.g.: business plan) for the examination committee defining in it the actual real sources and demands of the entrepreneur. What is also essential is to find a mentor who lives in the same geographic area as the supported candidate and follows the whole project from beginning to end. This is the person who supports the enterprise throughout the project with his/her professional skills and experiences and ‘guarantees’ its successful implementation, increasing the chance of repayment.

SUMMARY CONCLUSIONS

The most important inference we have drawn from various approaches and from our experiences is that the establishment of networks could be assisted by different kind of public or other tools (e.g.: applications) and be motivated supportively, however, if they are built formally, there is not much hope for their actual operation. The realisation, demand and activity of the participants and initiatives coming from below are essential requirements of the operation of networks.

Furthermore, confidence among participants is also an indispensable element, however it does not replace regulations reinforced by contractual relations within smaller and larger networks (especially in case of NVOs associating only for the production of particular goods). A number of reasons would explain for Hungarian SMEs to be the network ‘front-line fighters’ of the new EU Member States – mainly the size of domestic SMEs which is in several cases unsatisfactory for economical operation (Román, 2002). Although it is indeed questionable how far we are from this, the revival of interest in networks should be noted and appreciated as an encouraging sign. (Despite the fact that the majority of this is still the ‘application networks’, while there are only a few networks aiming for knowledge-integration among SMEs operating in the knowledge-based sectors.) It is true that there are serious attempts to build information-providing and innovation-animating networks and innovation- and knowledge centres (in the latter case these are often the notions of universities of each region), however, initiating local SMEs is rather difficult as the strength of such initiatives coming from below are missing. Nowadays it is well-known that the geographical closeness to these centres is not enough by itself if the participants lack the necessary confidence towards each other. This situation could be dissolved with the assistance of such people (eminent respected experts, researchers, counsellors, etc. with excellent communication skills) who could take the role of a ‘bridge’ between innovation- or knowledge-centres and local SMEs, and set up a base for communication, cooperation and trust among enterprises. According to our experiences, the problem is that there is a considerably great communication gulf between SMEs and innovation- and knowledge-centres and the mentioned bridging role does not seem to be enough to fill this gap as to achieve this, more ‘real bridge-building’ people would be needed.

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