Collaboration in the armed forces

An analysis from the perspective of network organizations

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Collaboration

Doctrinal thinking on the integrated deployment of combat helicopters, airmobile infantry and related transport helicopters is continually developing. One reason for this is an increase in experience in joint operations of the integrated 11 Airmobile Brigade/Tactical Helicopter Group (11 Air Manoeuvre Group, 11AMB).

Source: *Operational Principles 11AMB*

1. Introduction

Collaboration in organizations is not a new phenomenon indeed. Processes in organizations have always required collaboration and co-ordination between people, activities and departments. The last few years, however, there has also been increased co-operation between organizations, the so-called inter-organizational collaboration. This involves boundary-crossing collaboration, in which several organizations together make a product or create a service, share knowledge or make expertise available to each other. In the literature this phenomenon is known as network organizations (Nohria & Eccles, 1992; Jansen & Jägers, 1995). We do not only find network organizations in commercial companies, but as often in government organizations, where the participants may be government institutions/ departments, and in organizations outside the government. The term is also used when it concerns the collaboration between (reasonably) autonomously operating departments of larger organizations, such as multinationals. Thus the collaboration between the AirMobile Brigade and the Tactical Helicopter Group (THG) as described in the box at the beginning of this article, is an example of inter-organizational collaboration in the armed forces.
In this article we intend to present a vision on internal and external collaboration in the armed forces from the perspective of network organizations. By means of several points of interest in the recently published *Defence Memorandum* we will demonstrate that in a number of areas network-like organizations, in many variations, are emerging between armed forces, between services and between international organizations (section 2). In section 3 a theoretical framework is presented for the positioning of the different types of networks. This framework will be applied to the armed forces in section 4 and we will conclude our article by indicating the significance of network organizations for them.

2. Present plans for the (re)structuring of the defence organization

In the *Defence Memorandum 2000* the framework for the restructuring is given and with it the future structure of the armed forces. It offers a number of starting points for making an analysis of the armed forces from the perspective of network organizations. Based on the Coalition Agreement, the Memorandum will be guiding for the armed forces in the decade to come. Apart from reductions there will be room for innovation and intensification. As an

illustration a number of quotations from the 1999 Defence Memorandum (*Defensiekrant*, 29 November 1999) may suffice:

- Modern armed forces have to be flexible. The Netherlands armed forces are founded on the modular concept: they form a system of modules that can participate on multi-national levels. They have to fit in with NATO, UN, WEU, or ad hoc coalitions.
- The Defence Memorandum contains several initiatives that underscore the increased importance of collaboration between the Services. An alert and flexible defence organization requires personnel that is capable of seeing and going beyond the boundaries of their own unit.
- There are strong military-operational reasons for more collaboration between the Services, whose modules are also capable of taking part in 'joint' operations: modules such as, a mechanised battalion, a Patriot unit, the amphibious transport ship and parts of the Tactical Helicopter Group.
- Our government is convinced that directing such a complex and dynamic organization requires centralised control and decentralised implementation. The latter ensures an alert and flexible response, clear responsibilities and greater efficiency and centralised control on main lines is therefore better than centralisation.
- Collaboration between the Services can increase efficiency, amongst others in combat and logistic support.

The above quotations demonstrate that there is much attention for boundary-crossing co-operation and its control. In section 4 we will discuss the mainlines in greater detail from the perspective of network organizations.

3. A model for network organizations

On the one hand, network organizations emerge as a result of important changes in the environment of organizations, such as internationalisation, globalisation, etc. Also the individualization of the customer's demands and the continuous development of products and services may entice organizations to collaborate. On the other hand, the possibilities for collaboration have increased for organizations, in a world where modern information and communication technology (ICT) ensures a communication and co-ordination independent of place and time. Collaboration can take place with partners all over the world. But it is almost completely impossible without the use of ICT, and as a consequence co-ordination and information provision are at the heart of network organizations.

In earlier publications we have presented a model for network organizations (Jansen, et al., 1997). In this section we will briefly summarize our model before applying it to the armed forces in section 4. For network organizations, as for all organizations, the environment largely determines the design. In our model the most important factors in that environment are complexity and changeability. Three types of network organizations are distinguished on the basis of the level of complexity and changeability. Complexity can be defined as follows:

> Complexity is the extent to which an organization is confronted by various factors and relations, in particular the number of factors as well as the relations between the factors.

The environment of an organization can range from simple to complex – from the environment of the folding boxes manufacturer who only needs very basic knowledge for his simple products and who is only active in very simple markets, to that of a space travel organization that has to make use of the most sophisticated sciences in order to be able to generate a very complex output.

Changeability is defined as follows:

> The extent to which the organization is confronted with unpredictable changes in the environment.

Examples of this are unpredictable customer behaviour, a high personnel turnover, regular product changes, an unstable political situation and a fast changing technology. In a very dynamic environment it is difficult for an organization to anticipate on the future and it is almost impossible to fall back on previously developed doctrines and procedures.
On the basis of the key concepts of complexity and changeability three types of network organizations can be distinguished (Jansen, et al., 1997):

- Planet-satellite networks
- Strategic alliances
- Virtual organizations

The three types have been placed in the scheme below (Fig. 1).

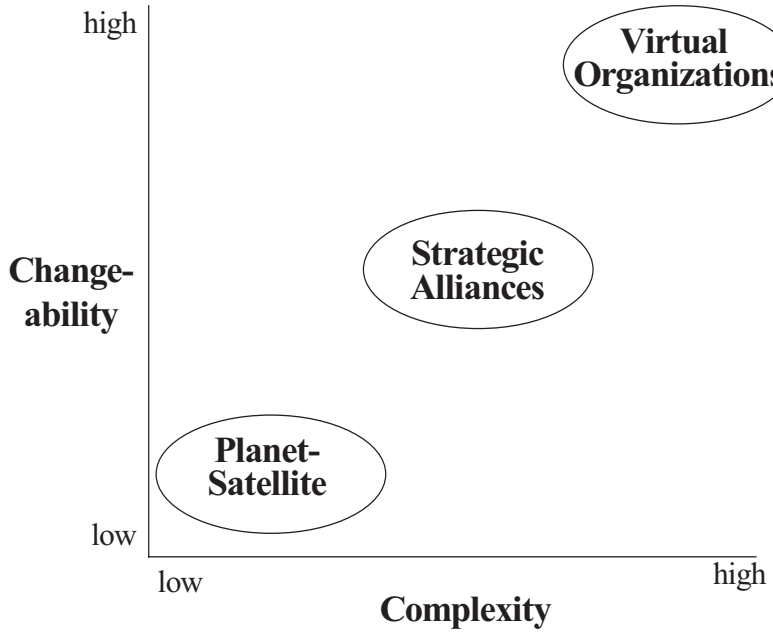

Figure 1: Three types of network organizations

Describing the network forms

3.1 Planet-satellite networks

In the planet-satellite there is one organization, the planet, which is dominant within the network and it has, as it were, a number of satellites around it. A good example of this can be found in Japanese production companies that work with subcontractors. The big companies determine the specifications, number, form, etc., of services/semi-finished products that are delivered by the suppliers. Due to the presence of a central party that holds all the power ('the spider in the web') there cannot be said to be a negotiation situation between the elements in the network. The division of power in this type is such that it seems as if there are departments or subsidiaries of one and the same organization, whereas of course there are several organizations 'bound' to the one powerful, central party in the network (Fig. 2).

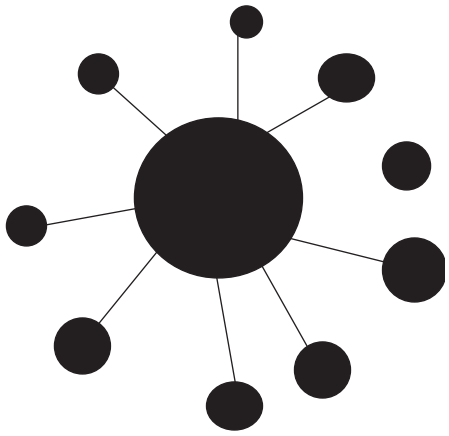

Figure 2: Planet-satellite model

The role of ICT in planet-satellite networks
In planet-satellite networks control is increasingly supported by ICT by means of electronic connections between the central party and the decentralised units, aimed at controlling the progress of activities (for instance, by workflow management), sales results, turnover, stocks, etc., and the giving of account (electronic report systems). Besides, there are shared customer databases and expert systems, enabling the users to supply customers of 'comprehensive services' in a decentralised way. The centralisation of power with the planet leads to the necessity of strongly standardised electronic communication (imposed by the planet), for which Electronic Data Interchange (EDI), in which computers communicate with computers, is eminently suitable. Placing and processing of orders are often cited examples of this form of ICT.

Characteristic	Planet-satellite networks
Purpose of collaboration	Efficiency and cost reduction (primary), increase of flexibility (secondary)
Environment	Low complexity; low changeability
Core competencies	Planet and satellite have different core competencies
Co-ordination mechanisms	Previously fixed rules and procedures; high level of standardisation and formalisation
Risk sharing	There is risk sharing between planet and satellites
Power	Lies with the planet (centralised)
Trust	Formal agreements reduce the need of blind trust between the partners

Table 1: Survey of characteristics of planet-satellite networks

3.2 Strategic alliances

In case of an increasing changeability and complexity organizations tend to choose for collaboration in a number of areas. Often they complement each other and by working together they can use each other's assets. In this type of networks there is a wider spreading of power among the participating parties than is the case in the planet-satellite networks. An example is the strategic alliance between KLM and NorthWest Airlines. This alliance improved the competitive position of the participants in that the occupancy of the air fleet improved by the combination of flights and the acquisition of landing rights on the permit of

one of the partners. These factors appear to be important arguments in the present cooperation boom among airlines (Fig. 3).

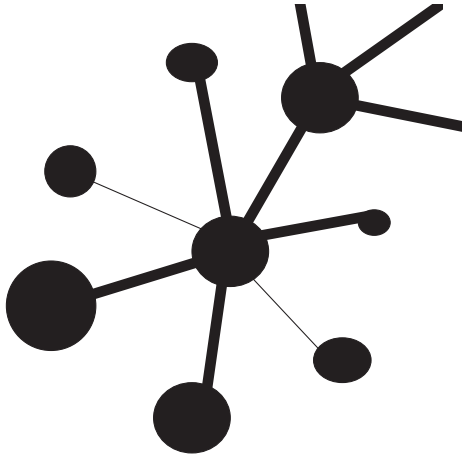

Figure 3: Strategic Alliance

The role of ICT in a strategic alliance
ICT plays a role in the communication between parties in networks. Allowing part of the activities to take place outside the organization necessitates the tuning of internal and external activities by means of ICT. The strategic alliance has existed for a long time now, and ICT has been the means to establish an optimal communication between the partners (E-mail, EDI, business-to-business E-commerce).

Characteristic	Strategic alliances
Purpose of collaboration	Market motives (primary), increase of efficiency (secondary)
Environment	Average complexity; average changeability
Core competencies	Parties have the same or complementary core competencies and can generate their own products independent of each other
Co-ordination mechanisms	Previously fixed rules combined with workgroups and committees
Risk sharing	There is risk sharing between the partners in the strategic alliance
Power	Power is shared between the parties or hardly present
Trust	Formal agreements reduce the need of blind trust between the partners

Table 2: Survey of characteristics of strategic alliances

3.3 Virtual organizations

In a sliding scale the increase of changeability and complexity finally leads to a virtual organization. Organizations have to operate more and more in unstable environments, in which it is not clear whether the existing knowledge of the single organization is applicable. In such a situation virtual organizations are playing an increasingly important role.[1] A distinctive characteristic is knowledge sharing and innovation. A common goal (often implicit), therefore, of virtual organizations is to experiment with new ways of collaboration.
In virtual organizations there is a relation of equality between the participants in the network. The difference with the strategic alliance is mainly found in the ever-changing composition of the network (Fig. 4). In strategic alliances the collaboration is much more permanent.

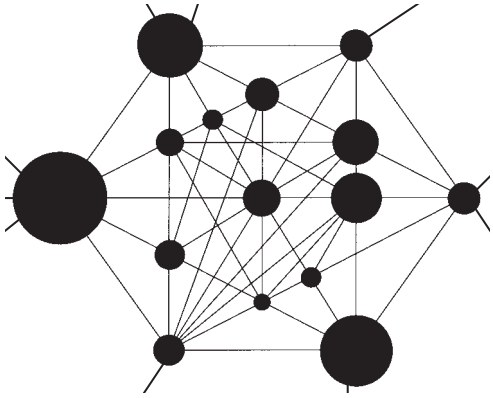

Figure 4: Virtual Organization

The role of ICT in virtual organizations
In virtual organizations, consisting of several organizations, ICT forms an essential prerequisite for the mutual co-ordination, facilitating the sharing of knowledge, in particular. ICT-facilities, such as E-mail, groupware, the Internet, videoconferencing and group decision support systems, are necessary for making quick contact with the partners about new or existing orders and ideas. Continuous co-ordination and monitoring of progress is also done by means of ICT.

Characteristic	Virtual organizations
Purpose of collaboration	Innovation and flexibility
Environment	High complexity; high changeability
Core competencies	Parties have different core competencies and CANNOT generate the product or service without each other
Co-ordination mechanisms	Mutual co-ordination, often with the help of ICT and committees or workgroups
Risk sharing	There is risk spreading between the partners
Power	Power is shared by the partners or hardly present at all
Trust	A high degree of trust is necessary because of the high uncertainty and high degree of dependency

Table 3: Survey of characteristics of the virtual organization

4. Network forms in the Defence Memorandum

In this section attention will be given to the proposed developments in the Defence Memorandum and they will be held against the light of network organizations. Examples from the armed forces will be applied to the three types of network organizations discussed in section 3. As was seen, these types lie on a continuum, and it will not always be possible to match organizations or parts of organizations fully with one of the types, although a certain type will often be dominant. An organization, therefore, can have the characteristics of one or more types of network organization at the same time. It is also possible that in one organization more types exist or that organizations can take part in more types of network than one.

4.1 Planet-satellite networks in the armed forces

In the armed forces a great many planet-satellite networks can be identified. Often reductions have been the occasion for this form of collaboration. Many reorganizations in the armed forces are targeted at increasing efficiency, reducing costs and improving flexibility. A well-tried method for cost reduction was reorganization, with a personnel ceiling as a prerequisite. Many units sought an escape in task specialisation and, whenever possible, the putting out of (a cluster) of tasks. Especially in the case of the garrison business this was often used. The outputting of maintenance activities, barracks security, and the hiring of temps for general tasks in the messes may serve as examples.

Units must concentrate on their specialist, irreplaceable core competencies. When, as much as possible, secondary tasks are put out or executed by units of the garrison, the units themselves only have to concentrate on their main tasks, which increases flexibility (Fig. 5).

In planet-satellites there is extensive agreement-making and co-ordination and a high degree of standardisation is required in order to tune all the business processes adequately. As a planet-satellite functions in a relatively simple and not very changeable environment this is not a problem. Procedures, once developed, will hold sway for a considerable period of time.

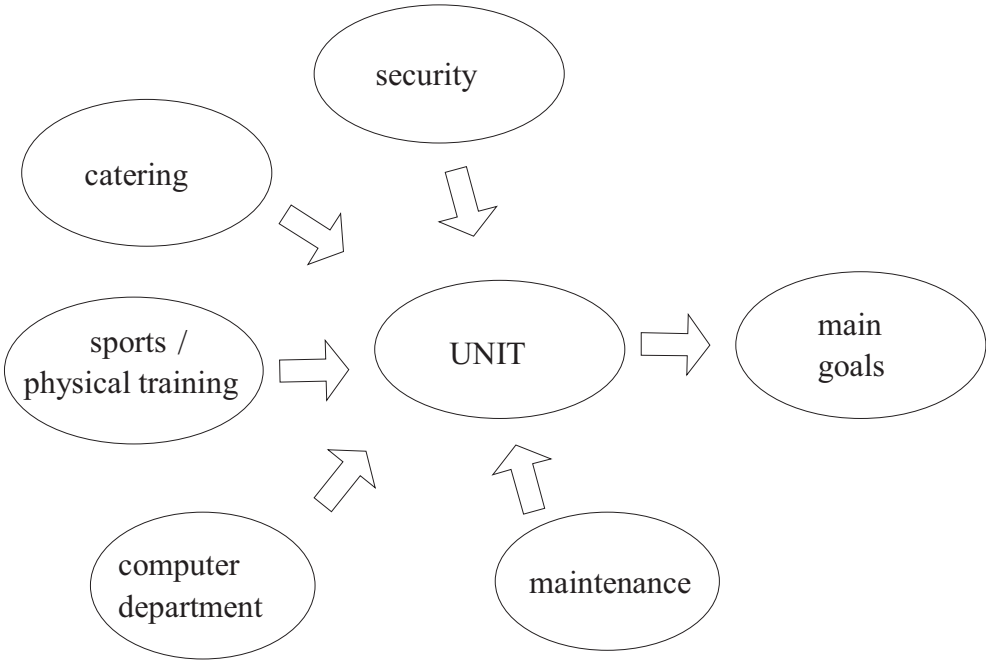

Figure 5: A unit and some of its satellites

4.2 Strategic alliances in the armed forces

The armed forces have always been used to working in strategic alliances. Examples can be found in NATO, UN, or WEU contexts. This network form is found in situations featuring an average complexity and changeability. Apart from these forms there are sufficient other possibilities for strategic alliances in the armed forces, in particular alliances in the field of special forces and airmobile infantry. Potential players in these alliances are:

- Special Security Assignment Brigade (BSB, of the Royal Netherlands Military Constabulary)
- Special Assistance Unit (BBE, of the Royal Netherlands Marine Corps)
- Commando Corps (KCT, of the Royal Netherlands Army)
- Royal Marines (Royal Netherlands Navy)
- AirMobile Brigade (Royal Netherlands Army).

A number of tasks these units train for are identical or at least similar. An analysis of the total task responsibilities and the collaboration based on them would most certainly benefit efficiency and effectiveness. Large gains are also to be reached in the areas of recruitment and training of personnel. As it is, all units are more or less 'fishing the same pond', in that the demands on personnel overlap and are often identical. Close collaboration is certainly possible here, also in the area of training, especially the basic training, where there are many similarities. An alliance in this area would create a 'win-win situation' for all parties involved.

4.3 Virtual organizations in the armed forces

The complexity and high degree of changeability of the environment of humanitarian aid organizations demand an approach for which virtual organizations are eminently suited. In the short term a product has to be delivered in an almost completely unknown area. Actors in a humanitarian or aid operation (HUMOPS) can be:

- the High Commissioner for Refugees (UNHCR)
- the International Red Cross (ICR)
- Médecins sans Frontières (MSF)
- a whole range of (Non-) Governmental Organizations (GOs and NGOs)
- military units
- local authorities.

These actors all fulfil an essential role in the administering of help, and most of the time they have a certain specialisation that makes them unique, whereas other aid organizations have a more general task and can be replaced more easily. This does not mean that when the task of one of the actors is not carried out, there will be no help, but the quality of the help offered does go down (Fig. 6).

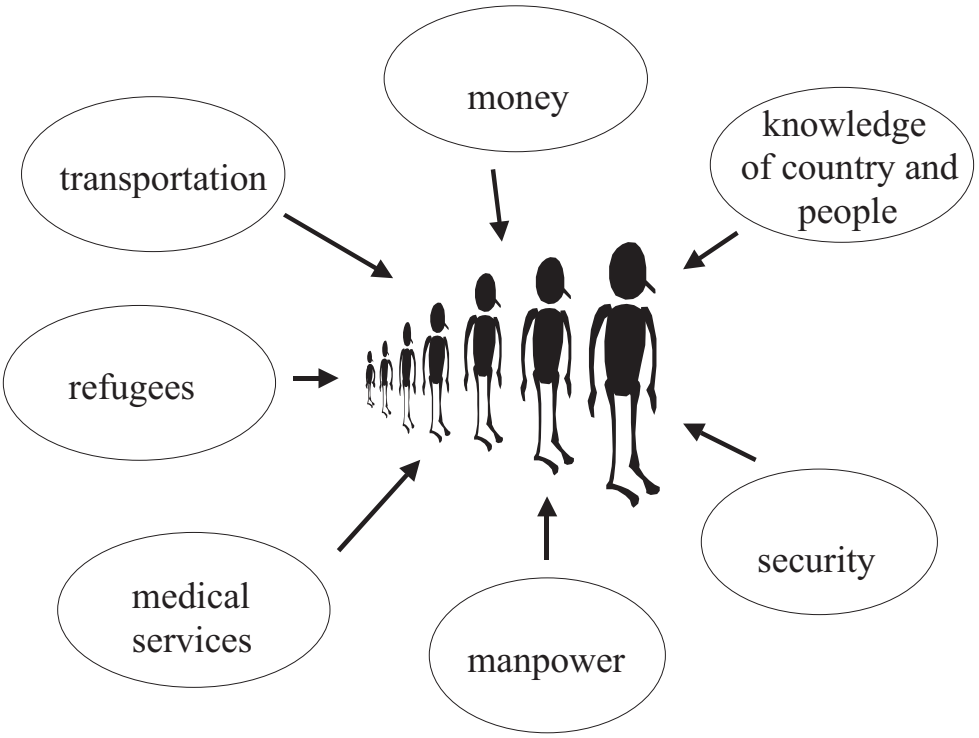

Figure 6: Virtual organizations in the armed forces

The armed forces have gained a lot of experience in working in virtual organizations during HUMOPS during the last ten years. A few examples are:

1991	Engineer Support Battalion	Iraq
1994	Provide Care	Goma
1999	Taskforce R	AFOR - Albania
1999-2000	Engineer Support Battalion	KFOR - Kosovo

As each of the actors has his own identity and home front, collaboration cannot be forced upon them or simply ordered. There is no centralised, let alone single-headed, control. Mutual dependency and common goals form the only binding factor between the actors who know and realize that collaboration is the only key to success.

5. Conclusions

What, then, is the significance of network organizations for the armed forces? When the armed forces environment is considered, it is very likely that present trends and developments will continue. To an increasing extent the armed forces will be confronted with missions abroad, aid operations and multinational actions. It can be concluded that this ever-increasing complexity and dynamism of the environment will lead to units operating more and more in virtual networks.
Another development is the steady increase in the price for weapon systems, which forces defence organizations to make a choice with regard to deployment. This in turn forces countries to collaborate in the development and procurement of these systems. Specialisation will be the result, but also with respect to military operations countries will develop core competencies, which will lead to yet more strategic alliances.
Apart from this there will also be parts of the armed forces that will remain functioning in more stable and simple situations, where the emphasis on efficiency and scaling up will create planet-satellite forms of collaboration. Whichever network organization will be chosen, they all rely heavily on the use of ICT.
It is most certainly worthwhile to map out all the different forms of external and internal collaboration that have emerged over the last few years or lie in the near future and to study for which form a particular network organization and the role of ICT will be most successful.

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[1] The publication of *The Virtual Corporation and Army Organization* (Fukuyama & Shulsky, 1997), commissioned by TRADOC, is an indication of the importance attached by the American Doctrine Committee to this kind of network.