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DANISH NETWORK PROGRAM

*DANISH
NETWORK
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Report by: *John N. Grantham, Commercial Counsellor
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Date: *31 March, 1992*

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Canadian Embassy, Copenhagen
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DANISH NETWORK PROGRAM

Traditionally Danish industry, like Canadian, is largely small to medium-sized enterprises (SME's). In fact, 80 per cent of Danish industries employ fewer than 50 people, with the majority fewer than 35. Most have little time and interest for some of the more important aspects of business, ie financial, marketing, management, focussing instead on production.

To change the structural base of Danish industry to face significantly increasing competition, Denmark now has three "Network" Programs in operation, which are designed to provide incentives for the formation of networks of these small companies, to help them to become more professionally managed and to enable each firm to compete successfully with the best of the large companies. Risk sharing is an important element of those Networks. "Network" Program "Scouts" and "Brokers" who try to identify areas which could become of interest to SME's are the key to the success of the Programs.

In our telex YJTD 4443, dated 26 March, 1992, we outlined the three "Network" Programs. In this report these are explained in greater detail.

DEVELOPMENT OF THE "NETWORK" PROGRAM

The original "Network" Program was developed in 1988 with the expertise of an American consultant, Richard Hatch. The original plan was too abstract and did not sufficiently take into account Danish conditions. These shortcomings were corrected and in August, 1989, the first phase of the Danish "Network" Program was launched.

DEFINITION OF "NETWORK"

In the Program, NETWORKS are defined in fairly precise terms:

- a) *Network cooperation is concrete, prolonged, contractually binding cooperation between a group of companies;*
- b) *Their cooperation includes joint establishment, development and operation of one or more activities which companies cannot manage alone; and*
- c) *Through cooperation companies will be able to solve bigger and more complicated tasks. The form of network cooperation intended by the program may be a means for SME's to achieve economy of scale, while at the same time preserving their independence.*

In network cooperation, the individual company preserves its independent status and network companies themselves are responsible for the form of cooperation. Knowledge and competence built up on the basis of the network must be under the companies' own auspices. A company may withdraw from a network if it no longer sees any significant advantages in cooperating, and new partners may join along the way.

CONDITIONS FOR SUSTAINABLE COOPERATION

In order to ensure that the program contributes to the support of sustainable cooperation, there are several conditions:

- a) Cooperation must be of prolonged duration;*
- b) Cooperation must be established by a group of companies, at least 3, who jointly establish, use and develop one or more important activities which they cannot manage alone;*
- c) Cooperation on joint financing and operation of joint activities or facilities must be contractually binding;*
- d) Cooperation must contribute to the member companies' innovative development;*
- e) Cooperation must have a clear marketing aim; and*
- f) Companies must become able to solve bigger and more complicated tasks than they can manage individually.*

FUNDING

Funding under the "Network" Programs is as follows:

1) Industry "Network" Program

Period: August 1989 to 1992

Dkr 150 million (C\$ 30 million)

a) Creating the Basis

Dkr 20 million (C\$ 4 million)

- running an information and awareness program,*
- training highly experienced industry advisers as Scouts and Brokers,*
- research and analysis work, including among others sectoral analyses, development of standard network contracts to meet varying needs, identifying tax constraints.*

b) *Feasibility Studies and Planning*

Dkr 30 million (C\$ 6 million)

- *feasibility studies - up to Dkr 75,000 (C\$ 15,000),*
- *planning - if the results of the feasibility study are positive, application can be made for 50 per cent of the planning expenses for the network,*
- *eligibility*
 - *groups of at least three companies*
 - *areas of cooperation*
 1. *Joint technology development*
 2. *Joint utilization of production facilities*
 3. *Joint market and technology monitoring*
 4. *Joint know-how import*
 5. *Joint marketing*
 6. *Other strategically important activities.*

c) *Establishment and Early Cooperation*

Dkr 100 million (C\$ 20 million)

- *once the decision is made to establish a network, an application for a grant toward the establishment and operation of joint functions of up to:*
 - *50 per cent of the expenses during the first year; and*
 - *30 per cent of the expenses in the second year.*

After the second year, further expenses and initiatives by each network are left to the basic business considerations of the member companies.

Only "common" costs related to the network can be claimed and these can only be paid to one of the network companies - not to the consultant.

While most networks formed to date under this Program have an export orientation, a second program, geared specifically to export, has also been implemented.

2) *Export "Networks"*

Period: October 1991 to December 1993

Dkr 110 million (C\$ 22 million)

- *Phase 1 - Structuring - grants are available to a maximum of 50 per cent of the costs associated with determining the feasibility of a network and undertaking planning*
- *Phase 2 - Introduction - up to 50 per cent of the costs of establishing an Export Network are eligible.*

Repayment is made over a period of 5 years if the network is successful

3) Tourism "Networks"

Period: August 1991 to December 1993

Dkr 60 million (C\$ 12 million)

- Phase 1 - Feasibility Studies - grants can be made to cover up to 75 per cent of the costs of a feasibility study of a maximum of Dkr 100,000 (C\$ 20,000)
- Phase 2 - Frameworks, Plans, Budgets, Agreements - can be covered up to 50 per cent, or a minimum of Dkr 50,000 (C\$ 10,000)
- Phase 3 - Operations - grants can be made to cover up to:
 - 50 per cent of the costs of establishment of a Tourism Network during the first year; and
 - 30 per cent of the second year costs.

Tourism Networks can be horizontal or vertical. Partners can be businesses, public units, institutions, associations and single partners operating in tourism. The collaboration must encompass a commitment over a longer period and have a concrete content.

SCOUTS AND BROKERS

The key to the "Network" Programs is the use of highly experienced, motivated and trained network Scouts and Brokers.

SCOUTS - The basic function of Scouts is to identify SMEs which could be interested in becoming part of a network. These scouts are trained during two sessions, both lasting three days. Initially, they can work hand-in-hand with "Brokers", but the latter eventually take over counselling and coordination during each phase.

BROKERS - They are particularly key for several reasons. They:

- sell the idea of networking to SMEs which fear relinquishing sovereignty and that the objective within a network is to act as a large company by utilizing complementarity in the group;
- act as a right-hand to and work side-by-side with SMEs, using simple language (and invoicing regularly for their services);
- perform spot analysis; and
- establish detailed roles, potential joint functions, assist in hiring lawyers, etc for the network.

SELECTION AND TRAINING OF BROKERS

Brokers are selected from among bankers, accountants, lawyers, companies and private consults. All have substantial SME associated experience.

They are trained utilizing a series of 4 seminars - the first is 3 days and the others 2 days each. The seminars are separated so that 3 case studies can be developed during the series. A summary of the technical content of the Network Broker Course appears in Appendix "F".

As we understand it, initially Mr Hatch trained 5 teachers at the Danish Technological Institute. These teachers in turn trained broker candidates in groups of 8. In total there are now 110 trained Brokers.

RESULTS TO DATE - THE ORIGINAL DANISH "NETWORK" PROGRAM

In November, 1990, a Mid-term Evaluation of the (original) "Network" Program was undertaken. An English language copy appears in Appendix "C".

More recently, a survey was taken of the "Networks" which have been established. As the survey is only available in Danish, following is an English summary of the result:

NETWORK SURVEY

NETWORKS PHASE 2 (Feasibility Studies and Planning)

Total networks (NW) which received questionnaire 75

Answered questionnaire 45

Purpose	71%	marketing
	40%	product development
	7%	use new production equipment

Formalization of cooperation	22 NW (49%) already formalized
	10 NW (22%) expecting to do so within the next year
	13 NW (29%) not formalized

Of the 13 NW not formalized, 11 do not expect to do so, 2 are unsure.

Of the formalized NW, 24% were in the form of a cooperation agreement and 20% in the form of an limited company or limited partnership.

76% think that the NW is good.

Effect of NW 64% strengthening of marketing
 47% product development
 33% organizational renewal
 22% better image

Difficulties encountered 44% lack of resources
 38% long preparation
 29% differences in resources
 24% lack of common objectives

NETWORKS PHASE 3 (Establishment and Early Cooperation)

Total networks which received questionnaire 100
Answered questionnaire 82

71% NWs unchanged participation
29% NWs changed in participation

Purpose over 50% marketing of new/existing products
 39% product development
 13% use of new production equipment

Economic objective 93% increase sales
 15% reduce costs (existing products)

98% of the NWs either have new markets or new products as an objective.

Cooperation in relation to objective 76% positive

19% of the NWs have had a reduction of costs of more than 4% whereas this was only the objective of 15% of the NWs.

2/3 of the NWs which had reduction of costs as an objective have achieved such a reduction.

42% of the NWs have had an increase in sales.

75% of the NWs felt a strengthening of their international competitiveness

Difficulties encountered 50% economic/time resources
 30% the preparation phase is too long

94% of the NWs will continue beyond the grant period.

Network Cooperation

- Achieving SME Competitiveness in a Global Economy

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NETWORK BROKERS' HANDBOOK

Following are selected pages from the Danish Network Brokers' Handbook.

The programme is based on a thorough assessment of past cooperative experiences in Danish industry, an evaluation of the relative competitive situation of SMEs in the 1990s, and an attempt to adapt successful network experiences from countries such as the U.S., Italy and Germany to Danish conditions. However, these experiences were based on a spontaneous networking behaviour among companies; therefore the Danish programme is designed to enhance this type of behaviour via a top-down approach.

... the programme is designed to have maximum short-term effect on awareness and to provide networks by providing "seed money" incentives where the programme will be terminated in 1993, leaving the question of further network initiatives to the basic business considerations of the companies.

76% think that the NW is good.

Effect of NW 64% strengthening of marketing

47% product development

33% organizational renewal

22% better image

Network Cooperation

- Achieving SME Competitiveness in a Global Economy

74% differences in resources

24% lack of common objectives

NETWORKS PHASE 3 (Establishment and Early Cooperation)

Total networks which received questionnaire 100

Answered questionnaires 62

In spring 1989, the Danish Minister of Industry announced his Strategy '92. A central element of this announcement was a 150 million Danish kroner programme to encourage network cooperation among SMEs, thus enhancing the international competitiveness of Danish industry.

The programme was in effect from September 1989 and only 12 months later the programme has had a significant effect on attitudes and behaviour of companies. For example, some 2,000 companies - more than 25% of the manufacturing companies in the country with more than five employees - have been involved in submitting proposals for the network programme, while studies indicate that a further 1,000 companies have entered networks without applying for grants from the programme. And some of the very early pilot networks have already addressed new business opportunities and entered new markets.

The programme is based on a thorough assessment of past cooperative experiences in Danish industry; an evaluation of the relative competitive situation of SMEs in the 1990s, and an attempt to adapt successful network experiences from countries such as the U.S., Italy and Germany to Danish conditions. However, these experiences were based on a spontaneous networking behaviour among companies whereas the Danish programme is designed to enhance this type of behaviour via a top-down approach.

For this reason, the programme is designed to have maximum short-term effect on awareness and to promote networks by providing "seed money" incentives whereafter the programme will be terminated in 1992, leaving the question of further network initiatives to the basic business considerations of the companies.

But how does the programme define networks, what would be examples of such networks, and how does the programme intend to provide incentives?

Significant concerned 30% economic time resources

30% the preparation phase is too long

10% of the 30% will continue beyond the grant period

Networks - a Definition

The programme assumes this definition:

A network is the cooperation - and the mechanisms of cooperation - enabling the small company to compete successfully with the best of the large companies.

Three features should be noted in this definition:

- 1) It is concerned with independent small companies. Networks are not mergers, on the contrary they are cooperation schemes which capitalize on the strength of the independent, competitive and flexible small company with the objective of compensating for some of its weaknesses.
- 2) The definition is not formal - it says *nothing* about legal framework, number of companies, size of companies, what they are cooperating on, whether they are in the same branch or different branches or any such matter. This feature is intentional in the programme and is also intended to be reflected in the administration of the programme which will have a minimum of bureaucratic restrictions.
- 3) The real objective of the programme is stated in the phrase "to compete successfully with the best of the large companies". This means that three companies sharing the expenses of a telephone switchboard or an administrative unit do not constitute a network in the sense of the programme. Only when their cooperation specifically aim at new business opportunities, new markets or a new competitive edge is it considered a network.

Production of Aids for the Disabled - an Early Network Success

To illustrate some of the features of the networks intended by the programme, one of the early successes - a network of producers of aids for the disabled - will be described:

Denmark has a structure of many, very small and very highly skilled producers of aids for the disabled. Their number and skills are based on the existence of one very large and very good customer, the Danish public health and social sector. The high demands of this sector have created companies with products of the highest ergonomical functionality but also companies with almost no marketing experience.

Today, these companies are threatened by a number of developments. Cutbacks in government spending are limiting their traditional market. International competition is growing. Technological development has introduced embedded electronics and new materials in the products, and the companies have no skills in these areas.

To meet these challenges, a large group of companies are in the process of creating a network. They have already - jointly with associations of disabled - established a network centre, a hub. In this centre they locate - and jointly finance - resources that are seen as joint solutions to common problems. The center is called DATCH and includes at this moment expertise in areas such as design, ergonomics, electronics, the monitoring of markets and technology, just as it has been decided to add resources covering quality assurance and international marketing.

The work effort is being coordinated by an employee of the centre who is also a trainee in the Network Broker Training Programme undertaken by the Danish Technological Institute as part of the Minister's Strategy '92 programme. Once again this network has proven the need for an independent broker to mediate in the complicated process of company interaction.

Two other dimensions of the network should be noted:

- * The companies are in a very intensive process of developing and capitalizing on their mutual complementarity. In terms of products, equipment and markets, they seek "division of labour", thus sharpening the business focus of each company, utilizing resources more to capacity, saving heavily on investments, having a more complete product line, and jointly reaching more markets. Of course, this will be an on-going long-term process but immediate advantages have proven considerable.
- * The companies also jointly seek to develop their subcontracting relations. In one direction this might mean jointly qualifying as subcontractors to very large companies. However, in this case it means jointly finding a highly qualified partner/subcontractor in the field of electronics. No single one of the companies would be an attractive buyer to the best producers in embedded electronic systems but with joint marketing and quality and a highly developed mutual complementarity they have proven to be an attractive partner as a group.

Six Features of Networks

Based on this one example, six features of networks as addressed in the Danish programme, can be described:

- 1) Essential for the formation and success of a network is the function of *the network broker* who will identify network opportunities, get the partners together, point out new cooperation areas, new network participants, new market opportunities, and who will also mediate the cooperation through critical phases.
- 2) *The network centre or hub* is the physical or legal location of joint - and jointly owned - resources and functions. The network centre will also very often serve as the focal point and even the meeting place of the networking companies.

Around these two structural features, the remaining four characteristics are *dimensions of cooperation* which are typical for all successful networks.

- 3) *Joint solutions to common problems*: Critical resources, which one single, small company cannot afford by itself, can be financed by groups of companies jointly, thus giving them access to knowledge, information, functions or equipment which would otherwise be the prerogative of the large corporation. This might be in areas such as the monitoring of markets, competitors, standards or technology. Advanced equipment, personnel development and training, research or product development, marketing, quality assurance, and for example joint finance and credit line guarantees.
- 4) *Development and exploitation of mutual complementarity*. Networks are often formed on the basis of complementarity of the participants in terms of products, skills, equipment or market, and as seen from the example, one of the important dynamics of their development will often be a strengthening of this complementarity: "If you buy that machine, I will buy this one". "If you concentrate on silks, I will cover the cotton products", etc.
- 5) *Developing the quality of subcontracting links*. Once again referring to the example, groups of companies might qualify as subcontractors on terms where any one of them would fail, just as they as a group might be able to attract the very best subcontractors to their own product lines. This means that, in networks, very small companies are able to emulate the behaviour of the best of the large companies, also in the crucial dimension of subcontracting.
- 6) *Individual access to end-markets*. As noted, the strength of networks lies in the flexibility and reactivity of the small company. Therefore, successful networks emphasize and develop company behaviour in which many of the participating companies bring some of their products to end markets and end users. This gives the network hypersensitivity to market needs, superior to what is usually seen in large companies.

Some further examples of networks

CD-line

11 textile manufacturers have formed a network called CD-line based on their mutually complementary products. One is producing shirts, another suits, one ladies knitwear, another men's knitwear, one produces ties and scarves etc. While all of the companies remain active in their traditional markets, as a network they seek new business opportunities that depend on their ability to market a complete garment collection. Initially, they are marketing image clothing to larger corporations in Germany.

Among their joint resources are marketing personnel, joint quality assurance and in the future a joint effort in EDI business communication.

As a network the companies are qualifying to contract very large corporations just as they jointly subcontract very high level resources, for instance in the area of design.

Golf courses

A group of landscape gardeners - who were suffering under the depression in the Danish building industry - established a network on the idea of marketing golf courses.

In order to do this professionally, the group has studied the best practices in the field in the U.S., and they have jointly imported know-how as well as specialized equipment.

They jointly finance a landscape architect, and they are marketing their product internationally with remarkable success.

Trawler technology

7 manufacturing companies in shipbuilding, tools, equipment, ship accessories and electronics have together with a private research centre and a bank created a network which undertakes product development of "trawler 2000", just as they do joint marketing and adaptation of their present products.

Their joint research and product development is undertaken in the research centre and utilizing excess capacity in one of the companies.

The members share an intensive marketing effort in the Soviet Union and a number of other countries.

Fast food

A large number of primary and secondary food producers have formed a network to achieve more value added by developing, producing and marketing high prize fast food products.

They have jointly subcontracted the processing facilities and a packaging producer, just as they jointly have been able to sell their products to supermarket chains.

Their joint resources include well known chefs who "design" the products.

Liberalized telecommunication

More than 25 small electrical appliance dealers, whose traditional market is dominated by work for the construction industry, joined in a network to seek supplementary market opportunities. Each of them covers a small local area but together they have a presence all over the country. They also have a record of direct service to the local customers.

On this basis they decided to enter the market for liberalized telecommunication - telephones, switches, cellular phones, faxes, Local Area Networks etc. This led to joint investment in personnel training, a joint service concept, a common name and logo, and joint marketing, including frequent full page ads in the leading national newspapers.

They have also as a group been able to achieve dealerships for some of the major vendors of telecommunication equipment, just as they have scored a considerable market share in succesful competition with the telephone companies.

To Encourage such Networks, what Does the Programme Do ?

The ministerial programme has been designed to provide incentives to the formation of networks with characteristics at a large scale, as demonstrated by the examples, thus changing the structural base in Danish industry.

To achieve this end, the programme includes the following elements:

Creating the basis - 20 mill Dkr

- * Running an information and awareness campaign.
- * Training 40 highly experienced industry advisors - from banks, accountants, lawyers, branch organizations, private consultants - as network brokers. An action learning programme which brings in top international experts and which will result in the formation of a large number of networks.
- * Research and analysis work: The programme finances for instance sectorial analyses but also has groups of lawyers develop standard contracts addressing the needs of different types of networks, groups of taxation experts identifying constraints in tax regulations, etc., etc.

Feasibility studies and planning - 30 mill Dkr

Groups of at least three companies can apply for:

- * Feasibility studies. Once a network idea has been formulated, it is very easy to apply for up to 75,000 Dkr. to investigate the actual feasibility of the idea.
- * If the feasibility study results in the companies deciding to move ahead, they can apply for 50% of the planning expenses for the network. They have to finance the other 50% themselves.

Establishment and early cooperation - 100 mill Dkr

Once the decision to establish a network has been made, the companies can apply for grants towards the establishment and operation of joint functions of up to 50% of the expenses during the first year, and 30% of the expenses in the second year.

Effects of the Programme - Some Preliminary Statistics

As mentioned in the introduction, only a year after the launch of the programme as many as 3,000 companies are involved in the formation of networks.

Distributed in relation to the elements of the programme, 375 groups of companies have applied for feasibility study awards (17.4 million Dkr granted), 82 groups applied for grants to cofinance the expenses of detailed planning (5.5 million Dkr granted), whereas 37 groups applied for grants towards the actual implementation of their networks (27.5 million Dkr granted).

This distribution partly reflects the logic of the programme being that not all feasibility studies can be expected to lead to the formation of actual networks, partly it is the result of the still relatively short period that the programme has been available. Finally, it is also the result of an emerging pattern that quite a few groups of companies apply for the feasibility study grant but once the feasibility has been demonstrated they tend to move ahead without applying for further government funding. This trend was documented in a recent study.

The distribution of applying companies according to size is:

1	-	5 employees	24%
6	-	9 -	12%
10	-	19 -	17%
20	-	49 -	22%
50	-	99 -	13%
100	-	199 -	5%
200	-	-	7%

Distribution of companies according to branch/sector is:

Agriculture, forestry, fishing	8%
Food processing	9%
Textile, clothing	5%
Wood and furniture	14%
Metal working	23%
Electronics	9%
Construction	14%
Others	18%



Distribution of applying companies according to region is:

Bornholm	3%
Zealand and small islands	32%
Funen	8%
Jutland	57%

These figures of distribution only state totals whereas the variety of networks as illustrated in the examples is not reflected. Some networks are among companies of the same size, others of very different sizes. Some include a large number of companies, others only 3. Some are exclusively from one industrial sector, others cross-sectorial. Some networks are local, others are national or even international.

Conclusion

As stated initially, the programme has already had a significant effect, in particular generating awareness but also a much more positive attitude towards cooperation among companies. Part of this effect is due to the fact that for instance banks, investors and accountants have taken a positive interest in the programme.

This by the way was clearly part of the design of the programme. Since scale is everything in a top-down approach to SME development, the programme had to identify and work on the possible multipliers in the process of promoting networks. The information campaign, the special support to early pilot networks ("the power of the example"), the training of key industry advisors as network brokers, the involvement of banks, accountants and other central groups are all examples of this strategy.

As a result of the success of this strategy, it is to be hoped that we will see the bulk of SMEs in the country still maintaining their independence, their flexibility and their traditional skills in terms of production, at the same time compensating their weaknesses by seeking joint solutions to common problems, mutual complementarity and qualified subcontracting. This means competing internationally even with strong and large competitors, capitalizing on the strengths of being small and in cooperation compensating the weakness of being small.

It is not very new but - we believe - it is common sense and sound business.



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