Electronic markets in the Nordic countries

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Abstract

An overview over the development of electronic markets in the Nordic countries (Denmark, Finland, Norway, Sweden) is given. Especially concerned are the markets that use videotex and related formats.

Notes are given concerning the prerequesites of electronic markets in general.

Emphasis is put on the TeleGuide development in Sweden, where strong Swedish market parties go together for a coordinated household oriented videotex activity.

Curriculum vitae

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Electronic markets in the Nordic countries

by Tomas Ohlin, Sweden
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An electronic market on its way

The situation concerning the development of electronic markets in the
Nordic countries relates to several background platforms. Firstly,
naturally there are differences between the different Nordic
countries. Here, we refer to the slides that are attached to the
paper. In these slides, there is given data on the situation for
primarily videotex in Denmark, Finland, Norway and Sweden.

One type of difference between the three countries first mentioned, on
one hand, and Sweden on the other, concerns coordination of efforts.
In Sweden, three main market parties have gone together to address the
expanding videotex market. These are the Swedish Telecom (Televerket),
IBM Sweden, and Esselte (a leading Swedish publisher). Such combined
organizational efforts are so far not to be found in the other Nordic
countries.

The aim for the TeleGuide project is to supply 1 million Swedish
households with electronic services before the end of the century.
This forms an electronic market of some size, surely well above all
relevant critical threshholds.

Since the other Nordic countries are following this activity with
great concern, it could well happen that similar activities would
appear elsewhere during the years to come. Cooperation over Nordic
borders may become a natural path.

The nature of value added services

Generally, a value added network service (VANS) often relies on
communication or database services that add some kind of quality to
the original service. This quality may consist of reference to data or
services that are relevant to the original service. Since the concept
of "value addition" often is used, but seldom is made precise, it may
be relevant here with a few examples:

- Plain old telephone services (POTS) are often complemented with
  services that concern number administration, invoice handling,
  background music while-you-wait, etc.

- Facsimile can be said to have "higher value" than the pure data
  transmission capabilities it uses. The value addition here is of
  both technical (data compressing) and administrative nature, often
  computer-controlled, when store-and-forward functions are included.

- Electronic messaging and computer conferencing contain a number of administrative aids to help handle communication of free-text messages.

- Electronic Data Interchange consists of transmission of "form bounded" data (invoices, buying orders etc) between computerized systems. Completion of actual data in the "form" is done more or less automatically in the sender's system. The value addition is taking place in the sender system.

- In videotex, reference is being made to database hosts where added services concern teleshopping, telebanking, travel ticket issuing, game playing etc.

Such, and other types of value addition form types of intelligence. Adding possibilities to refer to services of this type thus adds value, and at the same time some type of intelligence. Adding network service value means increasing network intelligence.

Where are the borders between different VANS? Exactly where does the value addition take place? Whom does the added value concern?

The OSI model defines levels from basic communication and up to "the application level". There is a need for specifications above this. The OSI level 7 concerns support of generic applications of type X.400. Above this one could perhaps discuss three more levels:

Level 8   Specific applications, of type EDI, videotex etc.
Level 9   Time dependant applications, where fresh data
                 are essential.
Level 10   User environment dependant applications

Discussions about value addition may become supported by such reasoning about addition on separate levels.

Let us continue with some pragmatic reasoning about value addition.

During the 1980s it has become evident that much of the real profit from activities on telecommunication markets have concentrated on telephony and telephone-related services. It is around such services that there has been a main demand. However, new services are expanding: facsimile, mobile telephony, voice mail, videotex. These services give examples of value addition that technically gives fairly low addition of intelligence.

However, in a user perspective, things may look different.

A lot of financial and organizational effort to-day is being put on high-level VANS from producers of telecom and information services. This is based on the reasoning that the more intelligence one can add, the better are the chances for profit. Graphics-oriented ISDN-services may on this basis of reasoning be more attractive than slow-speed electronic mail. This market judgement may not be clear to all. An additional motive might concern desire for influence over coming networks.

The addition of intelligence in such a reasoning concerns technological intelligence, higher speed, better graphics, better sound etc. This may be seen as producer oriented intelligence. The user demand may be more application oriented:

- Market success with EDI needs knowledge of different application environments. EDI may not be a general purpose solution to most computer to computer transmission needs. Rather, it can be seen as a way to automate an information system part in a specific branch.

- Electronic mail finds users regionally and locally rather than on distance. This is natural because of the fact that people mostly exchange opinions about matters that are well known to them, in some sence local matters. Is no coincidence that a large majority of telephone calls are local. The same reasoning can be applied to text calls, as well as mail.

- Many sucessful videotex services are of a local nature. They rely on local knowledge of business, travel, pleasure. The successful supplier of videotex services has to be locally knowledgeable.

- Also facsimile may add to this. Its further expansion may well be more and more branch oriented.

These examples show a user oriented demand which is local by nature. If generalized, this would mean that an increasing number of successful intelligent communication services may turn out to be more local than has been stressed in the 1980-s. This is in spite of the fact that telecommunications technology in itself is distance independent.

A conclusion could be that value addition demand increasingly concerns applications that are local to consumers. Consumers tend to increase their interest from low technology to high, starting where the price is low enough. If this reasoning is true, then electronic markets will develope from the technological bottom and upwards.

This may not only concern separate services, but also local networks of value added types.

Types of value addition

Added value concerns some type of added intelligence, in some sence relations to new services. These services can contain added facility for communication or for computation. Unfortunately, there are no sharp borders that separate different forms of value addition from each other. However, different types often are connected to different degrees of predefinition in time. One can see increasing value addition on a scale where what is added is less and less predefined. I such a model, the highest degree of value addition refers to what is created the latest in time. Addition of value often contains addition of some type of freshness, in form or content. A comment that is created on-line and spontaneously in this sence represents a high degree of value addition.

Having access to fresh user comments and references to late predefined texts thus would increase the value of an activity. Also, a comment that concerning content by a user group is considered especially relevant, thereby is given high value. Value addition thus can be seen as increased reference to application-relevant data.

With this reasoning, time may be essential for many types of value addition. Interactivity is a facility that relies on time changes.

Therefore, interactivity may be relevant for value addition. A service that uses a high degree of interactivity can be said to add higher value than a service that adds a lower degree of interactivity.

A market that contains a large number of value added services thus can be seen as a value added market.

Dynamic advertising

This reasoning about the value of time-relations can be applied to advertising on electronic markets. On electronic markets, things can happen really fast. Consider the following advertisement:

> "The red Ford that you see sketched on the following page, is three years old, has been driven 20 000 miles, and is in excellent shape. Its price is $ 10 000 to-day at noon, and this price decreases with one dollar every minute, until somebody buys the car. Please respond on the related response page, and please - act fast!"

The person between this ad pointed at an interesting marketing facility in interactive electronic marketing. The possibilities show the chances to let consumers interact with service providers, and to really influence on business opportunities.

Fixed prices may be changed into bid-and-offer pricing in large scale. In the example above, the ad uses a price function that decreases linearly over time. Naturally, other price functions may be used. They can be dependent on outside parameters, and on many types of customer behaviour. Selection of pricing policies thus may become an especially interesting and qualified activity.

Technically, though, such pricing is very easy even with to-day's electronic services. It is somewhat surprising that this kind of dynamic advertising so far has not been used to any high extent. Its market implications and possibilities are apparent. Having control over price setting mechanisms will become extremely delicate matters. It will give access to important competitive advantages.

Such direct contact with customer behaviour will surely affect existing roles and borders on the market. On an electronic market, there may be more direct contact between consumer and producer, and not so may hands in-between.

Another change to come concerns ownership. You do not own an electronic service like you do when you market a pile of oranges on an open outdoor market in a city square. In the information society, "ownership" will be complemented by "having access to".

Many other organizational effects may well be noted, as we move into more and more electronic services. To-day's videotex is a step in this direction.

Videotex in the Nordic countries
June 1991

Denmark
PTT

Kommunedata

Local systems

Finland
PTT:s

The "Folk-network"

Local systems

Norway
PTT

Local systems

Sweden
PTT

TeleGuide

Local systems

Investigations concerning possible
common Nordic interests are going on.

Videotex in Denmark
June 1991

The main danish videotex service is organized
in cooperation between the telecom carriers
KTAS, Jydsk Telefon, Fyns Telefon and
and Tele Soenderjylland. The service is called
"teledata" and uses the Prestel format.

Tariffs, excluding terminal or PC:
- DKR 25 (US$ 4) per month
- Minute charge DKR 0.76 (US$ 0.11)/minute
  in daytime, else 50 % lower.

There is also a separate videotex service in the
french Télétel format, organized by Kommunedata

Network connections exist with UK,
Germany and France.

The Danish videotex future is being discussed,
cooperation and/or competition?

Videotex in Finland
June 1991

Finland was among the first to develope
videotex services in the 1970:s, especially
supported by the newspaper chain Sanoma Oy.

Professional systems have expanded since then.
Videotex, however, now is used by less
than 10 000 customers.

Finland has 58 "local PTT:s", plus one central PTT
Organizational difficulties.
No household-oriented project.

Starting 1990, a coordinated videotex plan
is being implemented: TELMO, the "folk-network"

Telmo aims at the end of the century,
when "almost all companies, and every second
household will use electronic services".

Telmo will:
- be easy to use
- form a "frame" for many services
- identity users, possibly via smart cards
- be supported by centralized invoicing
- contain private as well as public services

Early Telmo services will be:
Electronic mail, telephone catalogues, public
services, a "vital electronic market", education ...

The cost to use Telmo will average around the
cost for a morning newspaper subscription.

Videotex in Norway
June 1991

The Norwegian PTT, Televerket, runs
the service, which is called Teledata.

Primary markets: Industry and
                      public authorities

No household-oriented project

Connections to UK and Denmark (with
further connections to France and Germany)

Number of users:

Jan 1989	2 000
Jan 1990	3 500
Jan 1991	6 500

Examples of services:
Finance and banking
Postal services
Yellow pages
Telephone catalogues
Travel
Electronic mail

Most popular services:
Finance
Telephone catalogues
Travel
Electronic mail

A number of closed user groups in industry

Videotex in Sweden
June 1991

The Swedish PTT, Televerket, runs
network and professional videotex services.
A version of the CEPT 1 standard is used.

Number of customers:

June 1989	15 000
June 1990	22 000
June 1991	30 000

Primary market: Industries and public
authorities

Most popular services:
Telephone directory, travel, stock market,
games, buying and selling, car register ...

The TeleGuide project was formed 1990 by
Televerket, IBM and the publisher Esselte.
Its aim is to provide 1 000 000 private users
with videotex before the end of the century.
Start september 1991 with 50 000 dedicated
terminals and 24 PC kits, all with smart cards.
Before end of 1992: 200 000 custormers.

Distribution of terminals and PC kits primarily
to large cities, and to selected customers.

TeleGuide is a project with strong partners,
showing a belief in videotex.