

Regional Electronic Market Places - a counter model both for developed and developing countries¹

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1 The challenge - a new information world

With the advent of international and the increasing commercial use of these networks, electronic information markets have become one of the major topics of discussion in international business and also in information science. This article presents the information point of view. What will be the contribution of these new markets to the production, distribution, and use of knowledge? Will information markets support the transformation of already produced knowledge into information that can be used in actual problem situations? And what does that mean for the balance of knowledge between developing and developed countries? Are electronic markets a means of overcoming the knowledge gap or will they rather deepen it?

Information is increasingly considered as the main factor for innovation in all fields in all countries in the world. This is not only true for high-technology countries but also, in particular, for developing countries which struggle to overcome the gap between rich and poor. „Rich and poor“ is nowadays reformulated as „information rich and information poor“. To have or not to have access to information is the basis for all progress in science, economy, culture, and society as a whole.

Traditionally, libraries, archives, and publishing companies with knowledge products in print form have been responsible for the provision of knowledge as a source for information. In the last twenty years, electronic online data bases have taken advantage of the new telecommunication networks and computer facilities and have provided additional and increasingly important information products and information services. These electronic services have constituted the information electronic market or, to put it in terms of a macro-economic concept, have founded the information economy, which can be considered as the growing, if not dominant sector of contemporary economies, at least in highly developed countries.

At present, again with the advent of international networks (the Internet), new online services have arisen on the market. These so called value-added services are in general end-user friendly systems due to the application of hypertext methodology and the use of the WWW software. These new online systems have changed electronic/information markets dramatically in the last 5 years not. Information markets are no longer domain-specific markets which are managed by information specialists only. They are public information markets, which means that they are not

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only publically available but also accessible and usable by in principle everybody. They can be directly distributed world-wide without any further organizational support.

Easy production, easy distribution, and easy access and usage - this leads many people to believe that a brave new information world will soon be within the reach where everybody from everywhere can profit from these new information products. There is little doubt that new information and communication technologies and services have the potential for constructing a new world order. But this is not an automatic process: International organizations such as UNESCO must play an active part in structuring it.

In contrast to the optimistic view - everything in the information world is becoming easier and better, due to advanced technology - we would like to emphasize that so far only highly developed countries have profited from the development of electronic information markets. They profit in a twofold way:

- On the one hand they have access to information resources because the international networks are at their disposal and they have the appropriate information technology infrastructure. They are the effective users of information. They use information as the basis for continuing innovation in all fields of the economy.
- On the other hand they have the knowledge and the market power to buy data from everywhere, to produce and distribute information that will increasingly be bought by information customers on a world-wide basis. They are the producers and sellers of information and thus constitute a new economy, the information or knowledge industry.

Being an information rich country therefore no longer means only the right of access to information but also the chance to produce, distribute and sell information. The ability to „read“ information is no longer sufficient. The right to information and communication is also the right to „write“ information. In advanced societies information products are the main source for the GNP and the majority of the employed find their work place in the information economy. Although this is so far more a characteristic feature of high technology countries, in the future it will be of relevance for all countries in the world. Is this process of informatization mainly a process of transferring experience from the advanced world to the developing world? Or is there a chance for these nations to find their own path towards the information society?

In the last thirty years the discussion about the best way of supporting developing countries has often been a discussion about appropriate technology: What is an appropriate technology for a developing country taking in account the specific circumstances of the country such as state of technology and education, primary needs, country-typical potentials, etc.? It does not make any sense to import technical systems which have been developed and have proved to be useful in a high-technology environment to a different context. And the same may be true today with the import of information and the usage of information market products. What is appropriate information? And who decides which information needs to be produced by whom? And what are the organizational/institutional means for building

appropriate information devices. This will lead us to the idea of regional electronic market places based on regional information competence.

The international information markets (users and producers) are at the moment heavily dominated by the western world, in particular by US-American interests or the interests of the so-called G7/8-nations. This is true not only for network development but also for information market places and information services. International players such as Knight-Ridder, Lexis/Nexis, Mead, Reuters, Reed, FT Profile, CAS (Chemical Abstract Services), Engineering Information, M.A.I.D. (Market Analysis and Information Database) - to mention only a few - dominate the (old) international online data base markets and the same is true for the new online services, the so-called value-added services such as CompuServe, AOL (American Online), Microsoft Network Services, etc. These services collect information, produce services and sell them. They dominate the information markets and have a monopoly on defining the content of the service. Information about an national market, let us say about Poland, is easier to retrieve from these international sources than from some national information infrastructure. Most of the countries in the world deliver only the raw material, the data, and are forced to rebuy the final information product from the international content providers, the online value-added services. This situation in the information age is comparable to the flow of raw material (at low cost) and final products (at high cost) between countries at different stages of development in the industrial age.

The thesis of our paper is that the advent of new information and communication technology provides an opportunity for new participants to enter information markets at low investment costs. And we consider (appropriate) new regional electronic market places as an ideal means for developing countries to establish their own information culture and thus to become active members of the global information market and the global information society.

To make these general ideas somewhat clearer we'd like to proceed in the following way: First, we shall explain the concept of *electronic market place* as the organizational or institutional realization of the principles of electronic market. Then we shall concentrate on *regional market places* and work out their potential for building a new economic and cultural identity. Finally, we shall apply the idea of a regional market place to the situation of developing or under-privileged countries, and give some proposals on how to realize these market places.

2 Electronic information market places

One might argue that there is no need to structure the new world-wide online information scene. There is one global market and everyone can contribute to this market by writing their information on the open Internet sky. And as a matter of fact, there are many million web sites (WWW applications) available. At the moment (early 1997) a new Web site is being opened every three minutes. But this information richness - as impressive as it is - produces new problems, mainly caused by the complexity of the information market. Although there are already powerful search engines for Web sites and other information services, orientation is becoming a major problem for end-users. This orientation problem is even greater than it was on the traditional online-market with its 7000 online databases. In this

situation it turns out that for orientation purposes it is helpful, if not necessary, for information services to be *bundled* according to systematic or geographical criteria. An appropriate bundle constitutes an information market place.

Information market places can thus be considered organizational or institutional platforms for the information economy. They structure the general market. Information market places can be organized according to *content* (examples are market places for touristic purposes, for the field of engineering, for an academic discipline such as archaeology) or *geographical extent*: there are city, regional, national or global market places on the market. A regional market place in Wroclav contains all kinds of information about Wroclav and structures information for the people living there. It also opens this regional market place to the rest of the world because regional market places are in an international network connected to the global market.

2.1 Technological basis of electronic market places

Let us briefly give some basic information about information markets and their technological background. We have coined the new concept of telemediatics in order to emphasize the close interrelation between telecommunications, informatics (computer science) and multi-/hypermedia. Information market products are based on telemediatics. It is the combination of these two, formerly separate fields, online and hypermedia, which has produced the current breakthrough of online service as a source of information for the public.

The breakthrough is within the reach of everyone although at the time being, it is still a minority of the population that has access to the telecommunication networks and information market products and services. In countries such as Germany the percentage of the population that has access to online networks is still under 10% and the percentage of people who use information services actively and continuously is still under 2% of the population. This is partly due to the negative influence of the the Post/Telekom monopoly in combination with a high price policy for network usage which is prohibitive for many private customers. In the English-speaking world and in the countries of northern Europe the active usage rate is much higher, while the usage in many developing countries is still unacceptably low, without no realistic perspective for overcoming this barrier in the near future. This is one of the major challenges for international organizations such as UNESCO, namely to provide these countries with access to networks as a basis for using value-added-services and for building their own services. Access to these networks is the basis or condition for active usage and participation not a purpose in itself. Internet access rate is an important indicator, but what really counts is the degree of actively participation both in the use and production of information.

2.2 Types and features of electronic markets and market places

We have already mentioned the two worlds of online service - the old online data bases and the new value-added services (in the Internet but also in other proprietary online services). To make the market situation somewhat more transparent we can distinguish the following stages or types of electronic market which will be realized

as concrete electronic market places. These can be interpreted as stages in the historical development but also as systematic distinctions which still coexist:

- domain-specific information markets - production of knowledge in science and technology with users in professional environments
- markets for business to business - organizations in business & administration with professional users in business and administration
- markets for public administration - public administration organizations with users in public administration organizations
- electronic markets for the public - organizations in business & administration with individual private users
- private individual markets - individual private users who communicate with other individual private users

As already mentioned, electronic markets realize market mechanisms with the support of telematics (telecommunication, computer science and multi/hypermedia). With respect to commerce we distinguish between electronic shopping and business to business.

2.2.1 Electronic Shopping

Material economic goods or their substitutes (goods in their material form cannot be really transported on electronic markets, only their electronic substitutes) are the objects of trade on electronic markets. The real advantage of electronic markets becomes obvious with immaterial (information) goods, which may stem from commerce, but, as will be shown below, also from public administration, politics, science and the social or cultural world. Electronic markets support all processes of presentation, marketing, information, communication and transaction.

On electronic markets information objects are available without any limitation of time or space. This furthers the process of what is now called the virtualization of markets and business relations. Users of electronic market places can easily access a large number of offers from different competitors at any time and from any place. Electronic goods (products and services) are increasingly being demanded for and used by private end-users on electronic markets for the public. Information/content providers are reaching more and more customers via electronic market places cost-effectively and flexibly with easily up-datable product information. The technical barriers for content providers are becoming lower and lower. Intermediaries have new opportunities to make electronic market places accessible to providers and to offer integrated problem solutions for end-users. Traditional intermediaries - in particular with respect to consumer markets - are increasingly being replaced by end-user-oriented services.

2.2.2 Business to business

Electronic markets also support all kinds of business to business transactions. They supply information leading up to a possible commercial transaction. They help in the search for potential business partners and in providing information about market trends. They enable providers to develop attractive products and thus stimulate

demand. They help to carry out all kinds of commercial transactions, e.g. transportation, insurance, customs payment financing logistics.

The main advantage of commercial electronic market places - besides the new potential for marketing - lies in lowering all kinds of transaction costs. This allows producers to attract new customers and customers to buy products at a lower prices. The (often windfall) profits from the decrease in transaction costs is the main reason for producers to participate actively in information market places and is also the main basis, together with new income from advertisement on market places, for the providers of electronic market places.

The potential of electronic market places can be summarized as follows:

- presenting the organization in total, thus building corporate identity and image
- presenting products and services in a flexible, adaptable and easy-to-update way
- maintaining active contact with current customers and winning new customers
- allowing tailored marketing (in principle 1-to-1-marketing)
- making competitive positioning easier
- building strategic alliances
- establishing new cooperative relations with (virtual) business partners
- supporting all kinds of transactions, such as electronic payment
- providing background information about all business processes

2.2.3 Information market places as a public challenge

Electronic of information markets are without doubt a challenge for the economy. But they will also influence the lives of all social groups and public organizations (administration/politics) and are to this extent a public task as well. Electronic markets therefore have a non-commercial information function which is of public interest. In the future they will allow citizens to participate actively in all aspects of their lives be it commerce, culture, education, science, politics, administration, or leisure. Information market places are thus a means of furthering public information and communication. Advanced societies will be measured not only by the degree to which they make electronic shopping and business-to-business relations possible, but, also, by the extent to which they allow their citizens to structure their lives on an information basis, to the extent they provide access to the information they want and need. Information, without doubt, is becoming more and more a free good to be negotiated and exchanged on the market. But information is additionally a public good, which must be treated and organized carefully from a public point of view.

3 Regional market places

In the past, the main focus of attention has been on global electronic market places. Online information services such as AOL, CompuServe or MSN are the global players in the new information economy. In the rest of this paper, I would like to point out that, despite the advent of global information systems and markets, regional or sometimes even local electronic market places are an ideal means of organizing information and communication and of serving end-users' needs. We consider regional market places as an important vehicle in the process of building new economic power and social/cultural/political awareness/identity. Regional electronic market places - this is the main assumption - enhance the economy and public

information as well. To support this assumption we use our experience with setting up and running the Electronic Mall Bodensee (for the lake of Constance), an example of an international regional market place covering those parts of Germany, Austria and Switzerland which border on the lake of Constance (accessible under: <http://www.emb.net>). The Electronic Mall Bodensee is one of the biggest regional electronic market places in the German-speaking world and can therefore serve as an empirical basis for the concept of regional market places.

3.1 Electronic market places and regional competitiveness

In the past, the regional economy has been highly influenced by the way in which the physical transport of goods could be organized. These classical positioning factors - the degree of access to the railway, highway/interstate or shipping systems - must be reevaluated with the event of information and communication technologies. Today, physical traffic will of course not be totally replaced but electronic traffic plays an increasingly important role.

How electronic traffic is regionally organized (by electronic regional market places) is much more under the role of the region than it was with the physical circumstances of traditional markets. Regional market places can compensate for existing commercial deficits in particular in rural, cross-border areas and in all regions of the world which have not been able to play an active role in the global economy so far. The existence of a well functioning regional electronic market places can therefore be an essential competitive factor influencing the future of the region, the regional economy and social life as a whole

What are the main features of regional market places:

- They provide a platform for all business and public information and communication activities: they allow electronic shopping for all who wish to do so; they further regional business-to-business relations, and they build up new relations between public administration and the citizens.
- Regional market places embed the cities and villages in the region by allowing them to (re)define their own local and as part of a region on an electronic basis.
- Regional market places are part of the global network of market places. They are not a new form of provincialism. Instead they allow people to organize their lives according to regionally specific circumstances. Among these regional factors is of course the local language. In regional markets places the local language of the people who live there can be used. Global market places tend to be dominated by the English language, but this will not be accepted as the day-to-day- language of communication in many non-English speaking countries. Those aspects of information which are of world-wide interest may be presented in the local language and in English.
- Regional market places provide devices by which world-wide information can be accessed from a regional point of view. They should, as a minimum, provide links to other regional market places and information services, and, as a special service, provide intelligent agents which are able to select regionally specific information from external resources.

- Regional market places should provide regional-specific information which is more or less stable and time-independent, e.g. from culture, history, science. This information can be used by the regional population but is also open to interested parties, in principle all over the world. The regional market places can become a marketing instrument for the region both in terms of economy and culture, tourism etc.
- In addition regional market places provide all kinds of dynamic information which is of more local/regional interest, such as weather forecast; opening hours for movies, theatres, exhibitions; traffic, local sport information.
- The value of regional market places will be defined by the extent to which they allow interactive participation. Market places are not only a new form of distribution and selling but also a means for active information behaviour.
- Regional market places further communication between the citizens of the region and should thus provide communication boards at all levels of society, simple chat boards, domain-specific mastered discussion groups, forums for political exchange when elections take place.
- Regional market places, like all electronic market places, are a means of orientation and should thus provide rich metainformation & orientation tools, such as search engines, guided tours, classification schemata, and interactive help desks.
- There is no need for a single market place, instead, the regional market place should be organized as a common platform where numerous regional content providers can be bundled. A regional market place should be open for all providers from business, administration and all other groups of society.
- There are many ways of organizing regional market places. It turns out that the most effective way of organizing an electronic regional market place (as a platform for all electronic regional market activities) is to avoid a monopoly, be it from public providers (public administration), from the media (a dominant newspaper), from business (a dominant regional enterprise or the chamber of commerce and trade) or from a scientific organization (a university in the region). There is no general solution to this problem, but the main regional actors should be incorporated in the operative responsibility of the market place.
- Additionally, there are many ways of financing regional market places. Initially, there may be some public support, justified by the advantage expected for the whole region. Regional markets, being a part of the market as a whole, should be economically managed, at least in the long perspective. Regional advertisement will be the main financial basis; traditional regional media should therefore be embedded in one way or the another in the management of the market place.

3.2 The concept of virtual regions

As we have already mentioned, there are many ways of defining an electronic market place. Among these geography. Nothing seems more obvious than define a region by its geographical location. But is this still true at a time when the majority of markets factors - and region is such a factor as well - are being redefined according

to the conditions of information and communication technology. Do electronic market places still mirror geographical conditions? The main characteristic of electronic market places in general is communication independent of time and space. Time-independent, asynchronous communication is the main factor in global markets along with space-independent presentation and buying of products. Telecommunication does not care about border restrictions. And therefore we argue that the extension of a regional market place cannot be exclusively determined by physical space and borders but should be redefined by the degree of communication, on an electronic basis.

We propose to define regional market places in terms of the interconnectedness of the actors coming together on this market place. Communication processes between persons and organizations create highly interconnected virtual spaces. The degree of interconnectedness in virtual spaces can be measured in terms of the number of relations between heterogeneous actors. Intensive relations constitute a market place. If, for example, there are many contacts between people and organizations in Constance, Graz and Edinburgh; then this communicative network constitutes a new region. In practice, however, the likelihood of creating completely new regions under the influence of communication technology is not extremely high.

Our hypothesis is that high connectivity in virtual spaces corresponds to high connectivity in geographic space. Of course, it is in principle possible for a regional economy to rely on the technological knowledge of a very remote university, but in reality technology transfer is easier to manage with the local university. Physical goods can be transported from all over the world but it is more likely that they will be bought within the close neighbourhood. The service in a regional hospital is more likely to be used than the service from a very remote hospital. People and organizations are not isolated, context-free atoms in global networks, but are determined by real communicative relations to other people and other organizations. The historical, political, social, cultural, and linguistic background is a useful basis for the development of stable regional networks and market places in global networks. Connectivity in these new market places becomes weaker at the borders of networks. Subnets may belong to different regional markets. Regional markets thus overlap and are embedded in national and global market places.

By advocating the concept of virtual regions we are not suggesting that the concept of traditionally defined regions be abandoned. On the contrary, new electronic regional market places are a good way to improve regional identity. The process of centralization in economy and politics as well (for example in Europe) is not reversible but can be made more acceptable by improving the regional and local situation. This is the Lebenswelt where people live and communicate with each other. On the other hand, new electronic market places as virtual regions can overcome restrictions which have been created by political decisions of the past. This means a new opportunity for regions in those parts of the world, such as in Africa, where traditional regional and cultural bonds have been dissolved by 19th-century colonialism.

4 Conclusion

Electronic market places are forms for realizing time- and space-independent principles of the electronic market in general. Market places are narrowly defined as information and communication places. Regional electronic market places are defined by the extent of interconnectivity between the actors in the region. Virtuality is primarily measured via communicative behaviour. Regional electronic markets organize the free flow of information in a twofold sense: They help in the access of information from all over the world and they support the competence of regional experts in organizing their own information, for use in their commercial and public businesses and accessible on demand for the rest of the world. Regional electronic market places encourage information and communication autonomy both in developing and developed countries. Due to its low entrance barriers, the market place technology can develop into prime information technology for developing countries and thereby become a means of narrowing the gap between the information rich and the information poor. It is the responsibility of international organizations of supporting developing countries in constructing and running their own regional market places. But also other regions in the world should be encouraged to invest in these regional market place as a counter-model to the information hegemony of global information players.