Editors' Note

Converge and Innovation Strategy for Service Provision in Emerging Web-TV Markets

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Convergence Processes, 
Value Constellations and Integration 
Strategies in the Multimedia Business

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Multimedia Market Evolution

The use of multimedia technologies as the core driving element in converging markets and virtual corporate structures will compel considerable economic and social change. Sound strategic management which takes into consideration the basic transformation processes of this sector will be a substantial success factor in securing a competitive advantage within this deciding future market. The change from an industrial to an Information Society connected therewith will above all be affected by the dynamics of technological developments. The Kontratieff Cycle Theorem explains the underlying principal of these developments (Schumpeter, 1939/Nefiodow, 1991). Accordingly, technological innovations are the substantial determinants of the emergence of social developments through sine-wave like Innovation waves or phases.

Today’s transformations are driven by information technologies, in particular multimedia based technologies, much like the steam engine, railways, the telephone, radio and the automobile (Kontratieff cycle factors) have changed mankind’s daily existence in the past. Following the Kontratieff divisions of the model, our present post-modern industrial society is in the midst of a transformation into an information society (the transition from the fourth to the fifth Kontratieff cycle). The fifth Kontratieff cycle will be strongly influenced by emerging multimedia technologies, which will act as catalysts towards the information society (see figure 1).

The absorption of communication and information technologies in a growing number of economic and social areas has increased significantly in recent years (Denger/Wirtz, 1995). This diffusion process is driven substantially by the American Government’s National Information Infrastructure Program, the European Union’s Program towards the Information Society and the Multimedia Initiative of the Japanese Ministry for Industry and Commerce. All of these programs envision the accelerated expansion and effective use of the so-called Information Superhighway as a deciding competitive advantage for companies, industrial branches and economic spheres within the triad of global competition.

The Information Highways will thereby become the central driving force of future economic and social development. The rapid establishment of virtual corporate and industrial structures is the final goal of such forced activities. It is
within this context that one often speaks of electronic markets, virtual value chains and virtual communities (Miller/Clemons/Row, 1993; Wirtz, 1995; Hagel/Armstrong, 1997). The situation is well described by Rayport and Sviokla of the Harvard Business School “Every business today competes in two worlds: a physical world of resources that managers can see and touch and a virtual world made of information.” (Rayport/Sviokla, 1995, p. 25). Concepts such as digital revolution, industry convergence and e-commerce gain a significant position in the ongoing discussion. (Davidow/Malone 1992). Since the multimedia market does not have to be built up from scratch, but is much more a combination of extant elements and applications based on differing converging markets, this convergence itself represents an important prerequisite (multimedia applications are characterised first by the opportunity for interactive usage, second by the integration of different media types like text, pictures, data, video or audio and third by digital technology and data compression).

The convergence of component markets such as telecommunications, computer hardware and software, entertainment electronics, as well as the media is of consequence for the developing multimedia market and closely tied to the themes of innovation and establishing standards (Middelhoff, 1997). Convergence can be defined as the dynamic approach or partial integration of different communication and information based market applications. A further aspect of convergence is that it brings out integrated multimedia products and services that render possible the satisfaction of additional and multiple consumer preferences. Broad mass markets driven by corporate and consumer application will not emerge until the convergence of component markets, which will create generally accepted standards and affordable products, and its transformational effects on related industries and sectors have occurred.

This article asks how convergence processes drive the change of value constellations and of competitive strategies in the media and communication area. After an introduction focussing on information society development (part 1), a brief overview of the structure of convergence is given (part 2). In addition we point out the main implications for the value chains in these areas and the structure of the new integrated value constellation (part 3). In part 4 we discuss the strategic reactions in the form of migration and integration strategies on the background of the convergence.

Convergence processes will not, however, effect a complete merger of these basic sectors. The fundamentally new structure of this sector will form an entirely separate market, which itself, however, will consist mainly of heterogeneous component markets. A fitting example of this development is found in the emerging integration of personal computers and intelligent televisions and the associated developing new market for intelligent interactive broadcasting (e.g. the introduction in 1999 of British Interactive Broadcasting in the UK or the Media Service Company of Deutsche Telekom in Germany). In such cases we are dealing with a product driven transformation process which will be caused in large part by a change in private household consumer behavior. The entertainment electronics industry is increasingly responding to this evolution by expanding its traditional TV-systems with computer know how and developing intelligent television sets which have PC functionality as well (see here the rapid growth of digital TV in 1998-1999 in the US, UK, France or Germany). In response, large entertainment electronics conglomerates like Sony, Philips or Matsushita are considering acquisitions specifically in the field of computer know how and interactve digital Media (e.g. Matsushita holds a 20%-share of the new British Interactive Broadcasting in the UK).

In a similar vein, the computer industry is clearly tending to augment its traditional offering with multimedia components and services (e.g. Compaq bought the internet retailer shopping.com in January 1999 to enhance its multimedia services in combination with its internet search machine Altavista). Besides this transformation of the end user device industry, telecommunication carriers (through their cable infrastructures and intelligent design) and media companies will unite within an emerging market segment in intelligent digital broadcasting to combine entertainment, information and network home shopping/e-commerce services. As this example illustrates, companies from within at least four separate industries (media, telecommunications, computers and entertainment electronics) create a new multimedia market segment through transformation and convergence processes. The fundamental directions of influence of these transformation processes are exhibited in figure 2.

In figure 2, three different sectors are presented (core ring, middle ring and periphery ring) in which different transformation processes will transpire. The convergence and transformation processes within the core ring will produce completely new value chains and value constellations, which in turn will lead to the emergence of entirely new markets. The exclusion of entire value added fields and steps in the middle ring due to their migration into the core (core migration) will force the reformation of traditional production structures (reshaping industry). The emergence of the core ring will therefore have considerable cannibalization effects on the essential business of the industries within the middle ring. Herein also exists the great substitution potential and the associated market selection processes. The availability of
new applications, products and services from within the core and middle rings can be seen as the driving force of changes in the outer ring. The availability of digital information highways in commerce, for example, will give consumers fast and increased access to a vast selection of goods, but will also cause an evolution from retail channels to electronic markets. The virtual products offered will be ordered on screen and delivered direct to the home (Magretta, 1998; Ghosh, 1998).

The retail sector is a good example of the impact of virtual developments (Benjamin/Wigand, 1995; Wirtz, 1995). Through the use of the Information Highway infrastructure (e.g. internet broadband interactive cable infrastructure), producers are able to establish direct connections with consumers and vice versa. The possibility of ordering merchandise directly through intelligent home ordering services and the use of newly emerging logistic companies, which will carry out the immediate delivery of the merchandise, will make the traditional retail functions and trade stages thoroughly obsolete (disintermediation see figure 3). Virtualisation and disintermediation as such will thus lead to the elimination of entire industry branches, or steps within value chains, for many industries (Shapiro/Varian, 1998; Magretta, 1998). A recent example for such developments is the emergence of "virtual retailers" like shopping.com or amazon.com in the US, Dixon in the UK or shopping 24 in Germany.
This example illustrates that even within the outer ring, fundamental transformation processes within industrial structures are possible, even if shaped to a considerable extent by the willingness of households to change their demand behavior. In considering the basic branches in which future convergence processes are expected, it becomes apparent that two of the four industries (telecommunications and media) exhibit a high degree of regulation. The ongoing liberalization of these fields is a prerequisite for convergence. In the US, for example, a consequential deregulation and an industrial-political consensus over the expansion of the Information Highway have established a corresponding climate for the breakthrough into the multimedia age.

In Europe on the one hand the liberalization of voice and network monopolies in telecommunication is ongoing – but there is on the other hand strong regulation of the media sector. Because of this, a large number of European companies run the risk of losing their association with the expanding multimedia field. The disadvantage which most European companies in the media and telecommunications sector have to endure rests on a long tradition of regulation within the European communications markets. Market regulation in the form of government monopolies, especially in telecommunications, broadcasting and radio, brought forth mostly large and inefficient organizations, which can adapt to rapidly changing competitive conditions only with great difficulty (Wirtz, 1994).

Moreover, such intensive regulation hinders the rapid development of a European multimedia market, because of the multitude of governmental entry barriers and conditions which it presents. The multimedia market structure and the competitive conduct of its participants is at present still largely determined by regulative intervention and control to the disadvantage of competitive companies. A rapid and fundamental deregulation is therefore a substantial requirement for the creation and maintenance of competitiveness and a condition sine qua non for a comprehensive diffusion of multimedia applications. First signs of a fundamental change in the regulatory behavior on the level of the European Union can be seen in the deregulation of the European telecommunication sector in 1998.

Value Constellations and Transitions in Market Positions

The multimedia market can be fundamentally divided into five different competitive, or strategic fields. This division is thereby based upon the differing application or need categories that are inherent within multimedia technologies. All multimedia services can therefore be subdivided into the following four categories: transaction, information, communication, entertainment/education. Essentially, it is the communication, transaction and information aspect which stands in the foreground of the business application market segment. On-line databases will become more user friendly for business use through the application of multimedia elements such as sound and graphics. Videoconferencing and teleworking represent typical media devices, that simplify communication.

Educational programs will be applied in corporate environments for employee training and development, as well as in the public sphere, within universities for example. The entertainment aspect dominates within the private user market segment, where services such as Interactive Pay-TV, Video-on-Demand and computer games will make individualized entertainment possible [see e.g. the new partnership in Germany between the Bertelsmann AG (media) and Viag Interkom (telecommunication) for interactive digital TV games in February 1999]. The information and transaction aspect, relates to services such as home shopping, electronic banking and information kiosks [see e.g. here the strategic alliance in Germany for online banking between T-Online (no. 1 online service provider in Europe) and the comdirect (electronic banking arm of the leading German bank Commerzbank)]. It is critical for the success of multimedia pioneers to convince both the private and business consumer of the usefulness of new multimedia products and services, for in the end, they will decide the fate of such new technologies beyond an initial introductory phase. Three points are especially significant for this:

- Integrating e-commerce services with information/entertainment content on a broadband base
- Establishing secure and simpler transaction structures
- Creating simple and user friendly interfaces

A combination of different value added stages will be necessary for the successful supply and marketing of these multimedia services and products (Gemini Consulting, 1998). The multimedia value chain allows itself to be divided into five stages: The Content and Service Creators provide the program contents and services; the Content/Services Aggregators combine various contents and services to create multiple program bundles; the value added service providers develop and offer new services on existing platforms; the access/connecting stage undertake the transmission of the contents and services to the customer. The Navigation/Interfacing stage provides customer navigation tools. Figure 4 elucidates the multimedia value chain.

Content/Service Creation

The Content Creators in their role as information suppliers constitute a core component of the value chain. The Hollywood majors, such as Time Warner and Columbia Pictures, but also TV and media conglomerates such as the Ger-
man Kirch Group and Rupert Murdoch, as well as news agencies such as Reuters and dpa rate among the most important companies of this value stage. The Service Creators are also important players in their role as transaction suppliers (e.g. electronic banking, e-travel, etc.).

**Content/Service Aggregation**

Content/Service aggregators combine various contents and services into segment specific packages and/or channels. The content/service aggregator is customer oriented and his central task is to organize the program bundle. In doing so, he moves within the recipient as well as the content procurement and advertising markets. The content/service aggregator organizes the compilation of targeted contents and functions and markets the product. Their activities include subscriber management (advertising, contract design, performance assurance, collection, subscriber administration and update service), the development or purchase of contents, technical functionality and switching capacity and the integration of product components. The US media giant, Viacom, for example, combines a variety of diverse music videos and its own commentary to create the music channel MTV, which it in turn offers to cable TV suppliers such as TCI Inc. (other examples include movie channels such as HBO or Premiere, news channels such as CNN and n-tv etc.).

**Value Added Services**

Value added services use existing carrier services, such as the telephone network, to provide such diverse products as consulting, billing assistance, content hosting, development, construction and operation of server platforms and agent systems, etc. IBM or EDS for instance are providers of integrated solutions for billing systems, call center services, IT consulting, etc.

**Access/Connecting**

Access, connecting, transmission, switching and network management are among the central functions within this value stage (access to the customer via local loop, cable infrastructure, IP networks, etc.). Carrier services in Europe are provided to a large extent by state owned telecommunications companies. Navigation/Interfacing

The electronics industry is a key player in the development and manufacturing of hard- and software, such as navigation software, set top box, cable modems, servers, end user devices, applications or security concepts. Networked multimedia services require a comprehensive hard- and software, which must be developed, installed and maintained. The program aggregators, much like the content/service creators, often decide to outsource the production of strategically irrelevant systems. Nevertheless the selection of the hard- and software interfacing is often the deciding factor for the quality and reliability of the overall service.

The “digital revolution” motivated the fusion and “intermixing” of affected industries with entirely new value constellations as a result, which creates the necessity among multimedia pioneers to reorientate their strategic behavior fundamentally. Consequently and similar to the market structure changes, a quantum leap in competitive strategies becomes necessary in order to capture the new growth potential of the mar-
ket. An example of this is the future change in the competitive positions of network operators and content aggregators. The legally protected network operators are being substantially weakened through continual deregulation. At the same time, growing product complexity and rising consumer demand for orientation/navigation and individualized solutions will emphasize the content aggregator’s marketing and packaging competencies. Figure 5 illustrates the basic transformation processes which clarify the need for strategic reorientation within these branches.

Many companies with different origins (Telecom, Media Industry, Electronic Industry, etc.) will attempt to assume the most favourable position in the grid. Successful players therefore need to define carefully a strategy that provides an optimal combination of independence and influence based on their traditional core competencies. For example content based companies that want to provide online services need to extend their competencies in designing interfaces and navigation tools, IT-operating systems or developing and maintaining realtime direct customer links and interactions in order to build high entry barriers of market independence and influence.

**Migration and Integration Strategies for Cross Market Dominance**

Participants in the multimedia market must prepare for the threat to their traditional business posed by newcomers arising out of the convergence activity in electronic distribution, end user device manufacture and the media industry. In addition, considerable infrastructure investments and the costly creation of customer acceptance and preference are necessary for entry into the multimedia market. Companies use migration strategies in order to gain competitive advantages by intelligently utilizing the leveraging of resources and new models of information bundling. All activities are focused on two critical success factors: the customer's needs and the company's core competencies. In this context the “Migration Concept” can be defined as a further development of the resource-based view. (Wirtz, 2000)

Following migration strategies companies shift their core competencies towards new business areas, which formerly have been separated but are now melting together. In an initial positioning phase the company offers highly innovative products/services as standalone solutions, in a later stage these products/services are being bundled and integrated. During this reconfiguration companies build up new performance architectures, which cover areas that have been separated earlier in the process. “The secret to success in fragmented industries is not just to unbundle, but to unbundle and rebundle, creating a new organization with the capabilities and size required to win.” (Hagel/Singer, 1999, p. 140)

The concept of migration can be characterized by three key aspects:

- Convergence and the growing together of formerly separated industries
- Reconfiguration and transformation of competencies and performance architectures
- Leverage of resources and building up competitive advantages by reconfiguration of core competencies
A multitude of cooperative arrangements are emerging within the multi-media market since the risks of independent technological leadership are relatively high. Experts estimate that in the United States alone there are already in excess of 350 alliances with the goal of participating in the creation and eventually demanding control of at least a part of the newly evolving business through cross-sectoral cooperation. Strategic alliances in the form of capital integrations, joint ventures and long-term contracts and agreements are being closed in order to secure know-how and dominate important new business fields.

The capital integration merger of the AT&T and TCI Inc. represents one of the most important migration attempts. AT&T bought the entertainment and cable television giant TCI for US$ 48 Billion in June 1998 in order to develop a “full service interactive network” in several US states. With this move AT&T follows its declared goal to offer business and private customers everything out of one hand, from the telephone network, through the related services, up to and including end user devices. Based on its global network, AT&T has taken a worldwide leading position within the Access/Connecting value stage. It is thereby best equipped for the development of the Information Highway. However, due to continuing market deregulation and growing competition the business environment is changing: margins are shrinking considerably in the traditional business of voice and data communication services. In addition, the telecommunication networks alone are no longer sufficient to achieve the desired benefit for customers. The necessary software for achieving an added value for the customer must provide both the choice of and access to contents, as well as their administration and distribution. Correspondingly, AT&T is striving to complete a multitude of cooperative agreements with market participants from the different value added stages. The most recent step towards the “full service interactive network” was the acquisition of Excite in February 1999 (Siegele, 1999).

Capital integrations and share purchases are the preferred exchange of strategic alliances. This path is chosen to expand efficiently the spectrum of possible action as there is seldom enough time remaining for an independent business expansion, and because financial resources are often insufficient. In orienting their multimedia strategies, market players pass through differing strategic development stages and bandwidths of the value chain processes. These range from a focused methodology to a cooperative strategy all the way to an integrative strategic concept which is pursued by the majority of participants. A consequential expansion of the action spectrum above and beyond the pure production of contents and services to include electronic processing and the organization and preparation of programs up to and including their transport to the customer is executed in several strategic stages. The aim of an integration strategy is to accomplish a commanding position within all stages of the value chain and the hope is to secure the largest possible market domination for the players involved. However, an integration strategy is often pursued only as the final goal of a new strategic orientation, after first a focusing and thereafter a cooperation strategy have been followed through (see also figure 6).
The establishment of a strategic general architecture is hardly possible within short time spans because of the immense investment requirements. Correspondingly, some providers decide first upon a focusing strategy, which contains, for example, the supply of program contents. In the end, Content and Service Aggregators are the most likely to pursue such a niche strategy profitably through intelligent combinations of hard- and software in the opening up of new business opportunities. The pursuit of a focusing strategy is at times also founded upon rigid vertical corporate strategies.

A focusing strategy is, however, only of limited strategic worth for a global player. These attempt to expand their core business and establish a leading position through cooperation with a multitude of suppliers from different value added stages. At present, a multitude of companies may be found in the stages of developing cooperative agreements. Such a strategy makes possible the rapid expansion of business fields with limited financial commitment. An expansion of the cooperation strategy throughout the entire value chain eventually leads to the integration strategy which offers the possibility of dominant market control.

The aim of such migration and integration strategies is to create a kind of a proprietary communication world in which all stages are delivered by one strategic integrated network (from the content/service creation over the portal and navigation control point and not least through the customer access). Here we are dealing with multiple customer bonding attempts in the form of a full integrated communication world (Wirtz, 1999).

For this reason, Content and Service Creators such as film studios, TV companies, publishers and online services, which possess one of the most profitable value adding stages, are the most attractive cooperation or integration partners. The movie industry offers yield opportunities unlike any other entertainment branch, through box office receipts, soundtracks and TV and Video rights. Consequently, the pure production of contents will often be the foundation stone of integrated value chain strategies. The control of the Content Creator and Content Distributor stages of the value chain will not, however, be sufficient in bestowing a dominating role in the multimedia market. Figure 7 illustrates the recent strategic migration and integration strategies in the multimedia business.

The cooperation with Content and Service Aggregators represents a further contingency for a successful integration strategy. Program contents will in the future be mere commodities (much like hardware in today’s PC market), in which consumers will only be interested if they can filter through the bewildering quantity of information, that is, if these contents are specifically oriented to their particular needs. The attainment of a corresponding customer value added through the administration and preparation of information and individualized services is therefore a further crucial asset.
Of all the value added stages, the Content User Equipment providers are perhaps most urgently in need of partnerships. These manufacturers can hardly continue to amortize their high investments despite rising demand for multimedia end user devices, because of ever shortening product life cycles and a price erosion within the entire hardware sector that varies between 10 and 50%. Information contents have therefore become the main revenue bearers. It is no longer technology which represents the decisive success factor, but the achievement of an added value for the consumer, who can be obtained only through high marketing expenditures. For the Content User Equipment providers, the cooperation or integration with the Content and Service Creators and Aggregators thus becomes an unavoidable necessity in dealing with the market at all. A recent example for such a strategic imperative is the take over of the e-commerce retailer shopping.com by the internet search machine Alta Vista from Compaq Computers in February 1999.

Despite the fact that the integration of the value chain stages is sensible from a market dominance perspective, the management tasks which arise from should not be underestimated. It is true that the network operators have sufficient capital and know-how at their disposal for the control of single value added stages. However, a corresponding integration-know-how and a tuned organizational flexibility are necessary for the pursuit of integration strategies. Yet it remains evident that hardly any single market participant can capture the multimedia market alone. An integration strategy minimizes risk within the process of capturing the market through an efficient bundling of resources and a dispersion of the capital raising responsibility among several market participants. For the global players, it opens a broad window onto the market and its rapidly developing technologies and services.

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www.mediajournal.org
Impressum

Title:
JMM – The International Journal on Media Management
Copies: 500
Edition: Vol. 1 – No. 1 – 1999
ISSN: 1424-1277

Editorial Office:
mcm – Institute for Media and Communications Management,
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CH – 9000 St. Gallen
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Published by:
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Beat F. Schmid – Editor-in-Chief
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Layout:
BELAU, Duisburg, Germany

Printers:
Niedermann Druck, St. Gallen, Switzerland

Remarks:
This publication is part of the NetAcademy on Media Management at the mcm – Institute for Media and Communications Management, University of St. Gallen.
www.mediamanagement.org
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The editor wishes to thank Bertelsmann Foundation, Germany, and Heinz Nixdorf Foundation, Germany, for its support with the publication of this journal.

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