

Strategic Alliances as a Coordinative Regime for Industry Convergence in the Multimedia-Market¹

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ABSTRACT. Multimedia (MM) alters the prevailing competitive context of a firm by replacing its traditional competitive reference scheme of an 'industry' by an industry-encompassing competitive perspective. The competitive relations of a firm are defined by its respective position in the multimedia value chain – its Strategic Value Position (SVP). The decisive characteristic of the MM-market is a parallel existence of traditional, industry-specific SVPs and newly emerging industry-encompassing SVPs, which are placed at the interfaces of industry-specific SVPs and offer fields of expansion for both established and start-up companies. So far strategic alliances have been the dominant form of economic coordination for value added activities in the MM-market. As for their strategic objectives, three types of strategic alliances might be differentiated: (a) alliances opening up new SVPs, (b) alliances strengthening an individual SVP and (c) system-alliances, which combine existing and newly emerging SVPs to cover the entire value-chain. Firms should closely monitor all three strategic dimensions to secure their competitive position in the MM-market.²

In contrast to existing technological innovation MM is not based on a single technical advancement, but on the integration of existing technologies and products of different industries. The premise 'one technology—one industry', which traces back to the classical innovation cycles, is superseded by the necessity for industry-encompassing coordination. Interfaces between existing industries become

the terrain of innovative start-up companies. Established companies are exposed to a variety of new competitive challenges. Besides having to defend their competitive position in their traditional industry, they have also to build up know-how of newly emerging industries and face the challenge of innovative start-ups.

This article outlines the significance of strategic alliances with regard to the changing competitive dynamics of single industries. The first part gives an overview of the characteristic features of the emerging MM-market, its different market segments and value added activities. In the second part the Strategic Value Positions (SVPs) are derived, which newly constitute the competitive relations between industries. The third part examines which variants of strategic alliances can be determined with respect to the specific SVPs involved in the cooperative agreement. Finally the main results are summarized and the interrelations between the distinct types of alliances are briefly sketched.

1. Multimedia as a phenomenon of technology fusion: the convergence of the media, telecommunications and computer industry

In this article MM will be defined as the integration of discrete data (text, graphics, stills) and continuous data (sound, motion video) into a digital and interactive media application. On the basis of this definition the future market segments can be determined by means of the dimensions 'area of application' and 'channel of distribution'.³ The criterion 'area of application' focuses on the different target groups of private

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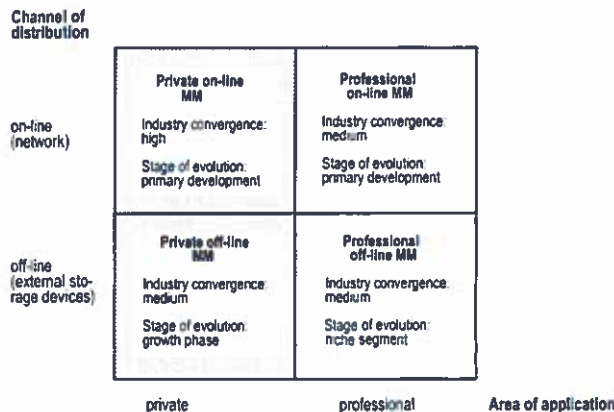


Fig. 1. MM-market segments and degree of industry convergence.

and professional users, whereas 'channel of distribution' differentiates between the technical distribution facilities of traditional off-line distribution and on-line distribution via network systems. The selection of criteria for the market segmentation is thus primarily based upon product and consumer categories. The criterion of a low degree of substitution between products of different market segments – as put forward in industrial economics⁴ – can, however, only be maintained over a short period of time. With the ongoing construction of broadband networks, electronic distribution will directly compete with off-line distribution by way of external storage devices.

The four market segments 'private on-line MM', 'professional on-line MM', 'private off-line MM' and 'professional off-line MM' differ as to the origin and number of involved industries and to the stage of market maturity. The four-field matrix in Figure 1 gives account of the degree of industry convergence and the intensity of the industry-crossing coordination in the market segments. The market segment 'Private on-line MM', for example, features the highest degree of industry convergence, as only the combined resources of the media, telecommunications, computer and other subsidiary industries (e.g. consumer electronics, cable-TV) can cover its entire value chain. In the market segment 'private off-line MM', on the other hand, industry interfaces exist only between the media and computer industry as well as between suppliers of consumer electronics. As these two

market segments display characteristics which are relevant to the entire MM-market, they will in the following be examined in further detail.

The value chain for 'private off-' and 'on-line-MM' may be simply divided into the five steps MM-assets, MM-production, processing and storage, distribution and receivers/service. Whereas the first two rungs are identical both for 'off-' and 'on-line MM', the value added activities divide (from the point of the transmission of content into the storage devices) into two different paths of value creation, with specific modes of distribution and service. As concerns 'off-line MM', the phase of content creation is followed by archiving data on a storage medium, the production of external data formats (e.g. CD, cartridge) and the distribution through physical distribution channels. The sequence corresponds to the traditional process of value creation in the software industry, which is characterized by a wide range of distribution modes and rather poor customer-company relations. With the electronic transmission of 'on-line MM', the physical storage format is replaced by a central high-capacity storage system (MM-Server),⁵ which is connected to the receiving devices of the consumer via a broadband distribution network.⁶ These devices enable the user to demand a real-time transmission of selected MM-services, which are electronically passed to a personal account.

2. Strategic value positions in the MM-market

The characteristic trait of the MM-market is thus the fusion of resources of different industries into a product or service. The starting point for a competitive analysis is therefore different compared to traditional industry-specific innovation. Firms, during phases of traditional product innovation, were faced with the question of which activities in the value chain might be outsourced. A firm is currently not able to cover autonomously the entire value chain, but can only produce a *contribution* in terms of resources and know-how. The restrictions due to the limited resources of a single firm thus become

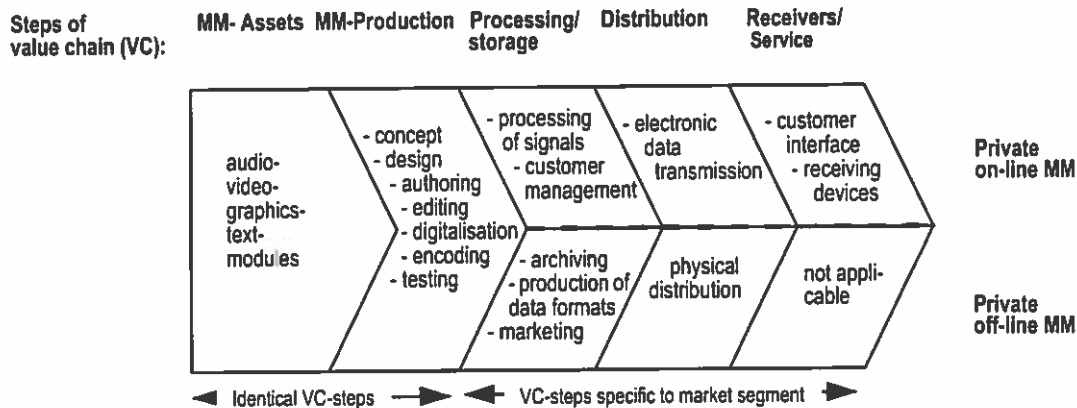


Fig. 2. Value chain for private off- and on-line-MM (cf. Schwarz, Medienwelt, 8).

the decisive strategic bottleneck which, in the models of strategic management, has so far been marginalized. To determine value added activity strategies within a specific market segment, not only the value chain of this market segment, but also its Strategic Value Positions have to be examined. The analysis of the value chain can provide insight into the extent of the required resources, and contribute to derive Strategic Value Positions of an individual market segment. A Strategic Value Position (SVP) shall be defined as a compound of allied value added activities which is of high strategic importance to the final product or service. It is not possible to speak simply of 'steps' in the value chain, as SVPs partly comprise several value added activities which are separated in the sequence of value creation, but only together provide a strategically important contribution to the value chain.

The analysis of the value chain has shown that part of the value creation is presently covered by existing firms. The MM assets, which serve as raw material in MM productions, originate from producers of film, sound and text material (film and television studios, publishing houses of books and music, etc.). Electronic, network dependent data transmission currently occurs via telephone and cable-TV networks. Moreover, the technical components of the infrastructure in other parts of the value chain (consumer devices as PC, TV and telephone, optical storage media, compression and digitalization technologies) have already been avail-

able for a long period of time - although not with the required level of performance. Contrary to linear innovation processes which may lead to a complete substitution of existing industries, the present industries still contribute an indispensable part to the value creation and do not become obsolete due to industry convergence. In the future they further have to pursue their industry-specific innovation processes and simultaneously have to keep in consideration the technical requirements for compatibility, which result from the integration of value added activities. In addition, new rungs of value creation (as the production of MM content, customer service, MM communication technology) emerge, which take an interface position between the already existing domains of value creation activities. These interface areas comprise know-how of various industries and require a specific combination of traditional competence and new skills. Innovation in these areas is only possible through the pooling of complementary know-how of the different industries. The characteristic feature of the MM-market is therefore the *parallel existence of traditional and new activities of value creation*.

According to these considerations, two groups with respectively three possible SVPs can be determined. The first group comprises the traditional players, whose value chain does not require industry-surpassing know-how. Within this group, three SVPs might be derived according to the nature of value contribution: content providers, owners of transmission infrastructure and

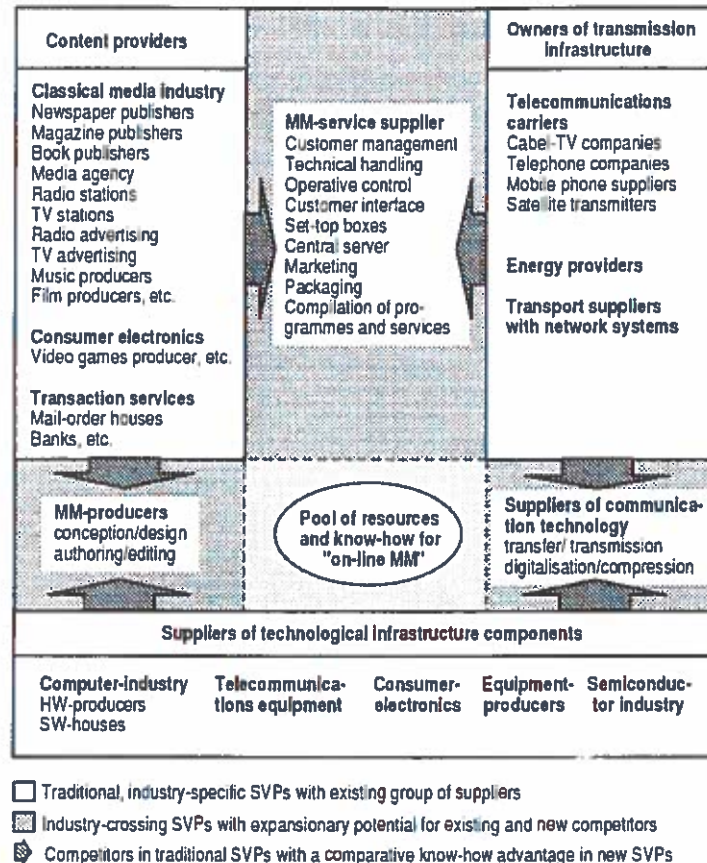


Fig. 3. Strategic Value Positions in the market segment for 'private on-line MM'.

suppliers of technological components.⁷ This classification seems similar to the traditional segmentation into media, computer and telecommunications industry, which each assume a dominant role within the single SVPs. The traditional structure of industries could, however, not be maintained, as the media, computer and telecommunications industries represent only a partial quantity of the SVPs. The traditional SVPs unite firms of different industries,⁸ but these industries are still determined by their monodisciplinary logic of value creation. The industries, which belong to these SVPs, already exist and can be defined quite distinctly (see Figure 3).

On the other hand the SVPs, which are situated in industry-crossing interfaces, are not yet occupied and offer terrain for expansion for established competitors as well as for new start-ups. The points of intersection between two traditional SVPs form three newly emerging

SVPs: MM-service; MM-production; and, integrated communication technologies. These SVPs require interdisciplinary know-how of (at least) two industries, which is often complemented by subsidiary know-how of other SVPs.⁹ Competitors of certain traditional SVPs thus have a comparative know-how advantage as to the diversification into new SVPs, as they already possess part of the required pool of know-how and resources. Suppliers of MM-service take an intermediary position between content providers and end consumers and are primarily responsible for the technical and administrative coordination of programmes and services. The major task of MM-producers consists of the conception of interactive software (games, interactive movies, data banks, etc.), which is composed of MM-assets like video-, audio-, text- and graphical modules. The SVP 'integrated communications technology' comprises integrated technical solutions for data storage,

data transmission and operation of network systems with special focus on the design of intelligent interface solutions.

3. Strategic alliances as a coordinative solution

A glance at the evolution of the MM market shows that strategic alliances¹⁰ have so far been the dominant solution for the coordination of value added activities: as of July 1993, 348 alliances were counted directly within the context of MM services.¹¹ According to the nature of the strategic objective, three types of alliances must be differentiated:

1. alliances which serve to access a new SVP;
2. alliances which are formed within a SVP to strengthen a company's current position in an SVP (industry-specific, horizontal alliances); and
3. alliances which combine existing and new SVPs and aim at covering the whole value chain in order to assume joint responsibility in a MM-market segment (system-alliances).

These types of alliances represent three possible planes, on which established players may operate to secure their competitive position in the emerging market segments. The division does not imply that an alliance can only pursue one of these three basic objectives.¹² Rather it is based on the empirical evidence that these three strategies (still) exist in isolated form. The first two strategic objectives are above all directed towards strategies for the first stage of market development. A favourable positioning by means of this strategy can be a prerequisite for the participation in system-alliances, which will assume prior importance in the long run. In the following sections the predominant characteristics and economic rationale for these alliances will be elucidated and implications about their long-term stability derived.

3.1. Alliances for access to new strategic value positions

For gaining access to new value positions by way of alliances there are fundamentally two strategic possibilities from the perspective of an established competitor: the joint development with an industry-extraneous partner with complementary know-how or the cooperation with a start-up company, which has already been equipped with the requisite set of 'interface know-how'.

3.1.1. *Industry-crossing alliances between established competitors.* Cooperative strategies of established competitors are formed between firms which possess a comparative know-how advantage in the new SVP MM production, integrated communication technology and MM service. The dominant motives of these alliances are the interdependencies of the partner-specific value added contribution and the mutual learning process, which is necessary for the development of new value added contributions.

Interdependence of the partner-specific value contributions. Alliances, which are entered into by established competitors to gain access to new SVPs, are characterised by complementary competence and resources of the corporate partners. TEECE¹³ differentiates between generic, specialized and co-specialized assets in the course of innovation processes. Generic assets are general resources and competence, which are not tailored to a specific innovation and can be used in a variety of ways. The use of specialized assets is unilaterally dependent on other resources, whereas co-specialized assets can only be exploited together.

The second part of the value added activities in the market segment for 'private off-line MM' belongs to the category of generic assets. The production of physical storage devices, the distribution and marketing are not exclusively undertaken for a specific software and can be exercised by companies in different industries (e.g. consumer electronics, media, software). For these value added activities alliances are

not always necessary and contractual solutions may be sufficient.¹⁴ The other activities in the market for 'private on-' and 'off-line MM' feature a unilateral degree of specialization in the phase of market evolution: the four SVPs of transmission; service; communication technology and, on a smaller scale, technological components, are fully specialized for content in electronic form. On the other hand, however, firms in the domain of content and MM production are not bound to a specific mode of transmission.¹⁵ For the distribution of their contents a variety of distribution channels (physical/electronic) are (still) available. The result is a unilateral dependence on the more technically orientated SVP from the supply of MM-content. In the period of transition, which will be determined by a further uncertainty concerning the acceptance of electronic transmission of MM-products, the cooperation will be exposed to opportunistic behaviour by the suppliers of MM-content. An example for this opportunistic behaviour can be seen in the liquidation of the Joint Venture between the German media group Axel Springer Verlags AG and Deutsche Telekom AG. The Joint Venture was founded in 1992 and aimed at developing an interactive on-line service for private households. Telekom was highly interested in the on-line service, as it should be based on its existing information service Datex J. Springer, however, lacked the necessary commitment, as it did not provide any assets specific to the planned on-line-service, except the generic input of informational assets. Already in September of 1993 Springer reduced its 75% stake to 25% and a little later to a share of merely 15%. The vanishing efforts of the media group led the Telekom to liquidate the Joint Venture in 1994.

Time symmetries of learning processes. A danger of alliances, above all of the ones which involve technological know-how, is the efflux of internal know-how to alliance partners: 'The single biggest cost may be one partner's loss of skills and other sources of competitive advantage to a partner that then becomes a more direct and potent competitor'. The greater the extent of know-how externalities, the more ob-

vious are intensive forms of coordination (e.g. Joint Ventures, integrative strategies), which should prevent a unilateral expropriation of know-how.¹⁶ The stability of the alliance is thereby subject to the nature of the know-how exchanged in the alliance and the ratio of the duration of the partner-specific learning processes.¹⁷

MM-production necessitates on the one hand creative know-how for the conception and the design of content, on the other hand technical knowledge for the mastering of authoring tools and programmes. MM-service requires marketing competence and technical know-how in procedures of decodation, consumer devices, storage technology and design of user interfaces. These two SVPs combine creative know-how, which is difficult to imitate, and on the other hand more strongly codified and therefore rather easily transferable technical know-how. Thus there are different time profiles for learning processes, which guarantee a stable alliance solution only during the time in which mutual learning potentials are existent. In the medium and long run it should therefore be much more profitable for content providers to independently produce MM software. This is reflected by a large number of content providers who have already gained sufficient know-how in MM production and now operate independently in the market. American media groups like Time Warner or Viacom Paramount have created their own Business Units for MM software (Viacom New Media, Paramount Interactive, Time Warner Interactive). The British MM producer Dorland Kindersley is another prominent example of a self-contained producer of off-line MM software. The Profit Centers of the Bertelsmann media group, T1 Multimedia and Telemedia, on the other hand, are currently still engaged in alliances with Philips in order to appropriate the requisite technical know-how.

In contrast, alliances in the SVP 'integrated communications technologies' feature stronger time symmetries in respective learning processes, as know-how on both sides is equally weakly appropriable. In this SVP R&D-contract and licensing agreements appear as the predominant forms of cooperation. This might be

traced back to the previsible time patterns of progress on the learning curve. No partner favours a strong mutual commitment in order to maintain the opportunity for autonomous activities in the new SVP. Examples for R&D contracts in this SVP which are limited in time and objective are agreements between AT&T and Xerox in the area of electronic document transfers and between Northern Telecom and Motorola to develop interactive telecommunication hardware.

3.1.2. Alliances between established competitors and start-ups. Besides the established competitors, which gain access to new SVPs by means of cooperative strategies, a large number of small, partly newly-founded start-up companies exist. These start-ups already possess the requisite know-how at the interfaces of existing industries. For the established competitor dominant rationales of cooperation are the reduction and dispersion of corporate risks as well as the circumvention of the firm's own organisational inertia.

Reduction and diversification of risks. Alliances can be an effective means to reduce environmental uncertainty and the resulting corporate risks. The risk reduction occurs in two dimensions: the decrease of the partner-specific investment for a given project and the higher probability of success due to unified, qualitatively superior resources.¹⁸ Cooperations between established competitors and small companies in the new SVPs 'MM production' and 'integrated communication technology'¹⁹ are guided by the same motives: the bigger partner exposes himself to the market risk only pursuant to his quota of investment and tries to increase the probability of a successful commercialisation through his own resources (financial support, access to distribution channels, etc.). The majority of such alliances in the MM-market are, however, solely based on a minority stake of established firms, without support in marketing and distribution. This allows a great flexibility for established competitors, who can separate themselves more easily from the investment in the case of failure (in terms of

transaction costs) than if they pursue a policy of self-development. AT&T has managed to spread risk in the new market in three dimensions: firstly AT&T has invested both in on-line and off-line MM (Sierra Network, EO), secondly it has equity stakes in different SVP (Imagi-Nation Network, Object Design) and thirdly it supports different market subsegments like Infotainment and Endutainment for children and adolescents (Spectrum Holobyte, Knowledge Adventure).

Corporate adaptability. Alliances with small start-ups are a means for established competitors to react in a more flexible way, e.g. with shorter, timely processes of adaptation, to changes in demand. Established groups are characterized by an organizational inertia,²⁰ which impedes self-development or the autonomous acquisition of strategic competence in a dynamic environment. The small start-up company, '[single-minded] in activity developing and exploiting the new technology, and [flexible] in process and procedures',²¹ is furnished with a greater adaptability to environmental changes because of its closer familiarity with the market. The local concentration of the functional divisions (marketing, R&D, human resources) brings about an easy circulation of information and a shorter decision-making process. 'If [information is] forced to move vertically before it can move horizontally, its timeliness as well as its value will erode dramatically'.²² Firms for MM production are, for example, organized in a very project-orientated way like a software company, which is still rather uncommon for classical suppliers of content. The Bertelsmann media group offers an illustrative example of how an established company with three out of four divisions in printed media only sluggishly adapts to the upcoming challenges of electronic media: only single, dispersed Profit Centers operate in the new SVP MM production, there is so far no centre of expertise, where know-how is concentrated or information horizontally exchanged.

3.2. *Alliances to strengthen the individual strategic value position*

This type of alliance primarily covers horizontal alliances between competitors in the same industry. The firms lead a cooperative relationship within the alliance, but are in competition in all other business segments. The threat of know-how outflow is much greater in this second category of alliances than in industry-crossing alliances. It can directly impair the own competitive position.²³ This danger is counterweighted by two motives with a potentially stronger economic significance: the joint establishment of an industry standard and access to new geographic markets. It is thus not striking that alliances between competitors are above all formed in the traditional SVPs and between established companies.

Standardization. '[In] the pre-paradigmatic stage of an industry [...] competition among firms manifests itself in competition among designs which are markedly different from each other'.²⁴ In the MM market a variety of incompatible technological formats exist in many areas (operating systems, user interfaces, CD formats, etc.).²⁵ Although an open system architecture is aspired to in the long run, during the process of market evolution a number of 'trial and error'-processes will take place, until a dominant technological solution crystallizes. In this situation strategic alliances can be a means to attain a higher degree of penetration of one's own format and to enforce it as a de facto or industry standard. Interface standards play a decisive role in systemic innovation processes, as they create the prerequisites for the joint operation of different modules in a complex system.²⁶

In the MM market segments, alliances to foster a market standard are formed on two levels: on the one hand by way of an association of firms and partially public standardization committees to open groups of interest²⁷ (*collective standardization projects*), and, on the other hand, by way of individual cooperation between companies and a commonly pursued policy of licensing (*individual standardization projects*). Collective standardization projects

(like the 'Multimedia PC Marketing Council' or the 'Interactive Multimedia Association') contribute to the reduction of individual search costs by locally concentrating decentralized information, but are characterized by a high pluralism of interests and an uncertain outcome. Companies, which have already developed a marketable format, might therefore additionally engage in individual licensing agreements. Philips is, for example, a member of both collective agreements, but at the same time pursues a rigorous license policy for its TV-based CD-I system. Another motivation for individual standardization projects might be the risk of a ruinous 'standardization battle', which induces firms to cooperate with potential competitors already in the phase of product specification. Therefore Apple has generously licensed the technology and product specification of its mini-computer Newton, a jointly development with Sharp, even well before the product launch. Among the licensees are Sony, Matsushita, Deutsche Telekom as well as AT&T and Casio, which have already developed new products based on the Newton technology. Typical of these forms of cooperation is their limited duration: as soon as their joint aim of establishing a standard is realized, 'the participants... can return to their "daily business under regular competitive conditions"'.²⁸

Market access. The object of gaining access to new geographical markets is hardly pertinent for suppliers of technical infrastructure components, since products are internationalized and distribution is not regionally concentrated. But for the owners of transmission facilities, whose services are tied to infrastructural investments, and also for content providers international alliances can represent a means to globalize their geographic field of operation. As a reason for the necessity for cooperative strategies in network distribution Deutsche Telekom mentions the 'lacking access to markets and customers' as well as the 'high amount of investment for the development and operation of international networks and services'.²⁹ 'No sole carrier, including AT&T, has sufficient financial resources or global presence to service [the] demand... for seamless, global, advanced telecommunica-

tions...³⁰ The absence of an international network infrastructure necessitates cooperation between international partners, which together position themselves as global carriers. Examples of these type of alliance networks are Unisource (Telia, PTT Niederlande, PTT Schweiz), World-partner (AT&T, KDD, Singapore Telecom), British Telecom/MCI and France Télécom/ Telekom/ Sprint. As the value creation of the partners is identical and not expropriable because of their strong reliance on infrastructural assets, the alliances are characterized by a relatively high degree of stability. The empirical investigations by Haagedoorn,³¹ who examined the strategic networks of the telecommunications industry from 1980 to 1989, confirm this assumption: with a total of 64%, the telecommunications industry contains the maximum percentage of firms in the information technology sector which maintained their cooperation during a time period of 10 years. In the SVP 'content', alliances between competitors with the object of market access are less frequent, as media groups – at least concerning off-line distribution – operate already in a global context. In single domains, e.g. the foundation of new TV stations abroad or cross-licensing agreements of specific programmes, the motives of market access can, however, be predominant. The German TV channel PRO 7, for example, entered into an alliance with the British TV station BSkyB with the common objective to exploit the European market for Pay-TV. Similarly Bertelsmann and the French Pay-TV channel Canal Plus formed a Joint Venture for the joint purchase of European broadcasting rights and programmes.

3.3. System-alliances

System-alliances comprise all SVPs of a MM market segment and jointly assume the function of a supplier in the market. Empirical evidence on system-alliances is scarce, so that conclusions on their stability can only be drawn by way of theoretical considerations. It is definitely possible that a single supplier can autonomously take over all SVPs by way of integrative strategies. This might, however, not only be contrary

to antitrust objections, but also to economic reasoning. A decisive variable for the determination of the form of cooperation between single SVPs are the specialization of assets and the strategic importance of single SVPs with regard to the whole process of value creation. With the progressing market evolution the SVPs are characterized by a growing co-specialization of assets, i.e. a stronger reciprocal dependence on other resources for the production and commercialization of MM products. As soon as the infrastructural prerequisites for the electronic transmission of data are realized³² and consumer preferences move into this direction, the suppliers of MM content become increasingly dependent on electronic facilities of transmission. These mutual dependencies of value creation foster a stable alliance solution by obviating opportunistic behaviour³³ of the partners.

Another variable for the form of coordination is the strategic importance of a SVP for the entire value creation. The technically dominated SVPs are only significant for joint output creation, as they should guarantee a flawless technical procedure (fast access times, high quality of transmission, etc.). Due to the expected standardization of interfaces the suppliers of technical components will most probably be confronted by an intense price competition. In these SVPs the market solution with its regulative price mechanism will prevail in the long run. Areas, which have decisive importance to the final market product (as e.g. storage facilities, which determine the quantity of programmes and services) will, however, be dominated by cooperative solutions. The differentiating feature of a MM-network product will be the quality and attractiveness of its content. The content providers thus assume the greatest strategic importance for the success of a system-alliance. These SVPs represent the decisive bottleneck factors and therefore promise the highest potential gains. In this situation an integrative solution might be advantageous, as a non-integrated firm might lose a lot of resources bargaining over the distribution of the gains.³⁴ With vertical integration this incentive for negotiation is removed because of bu-

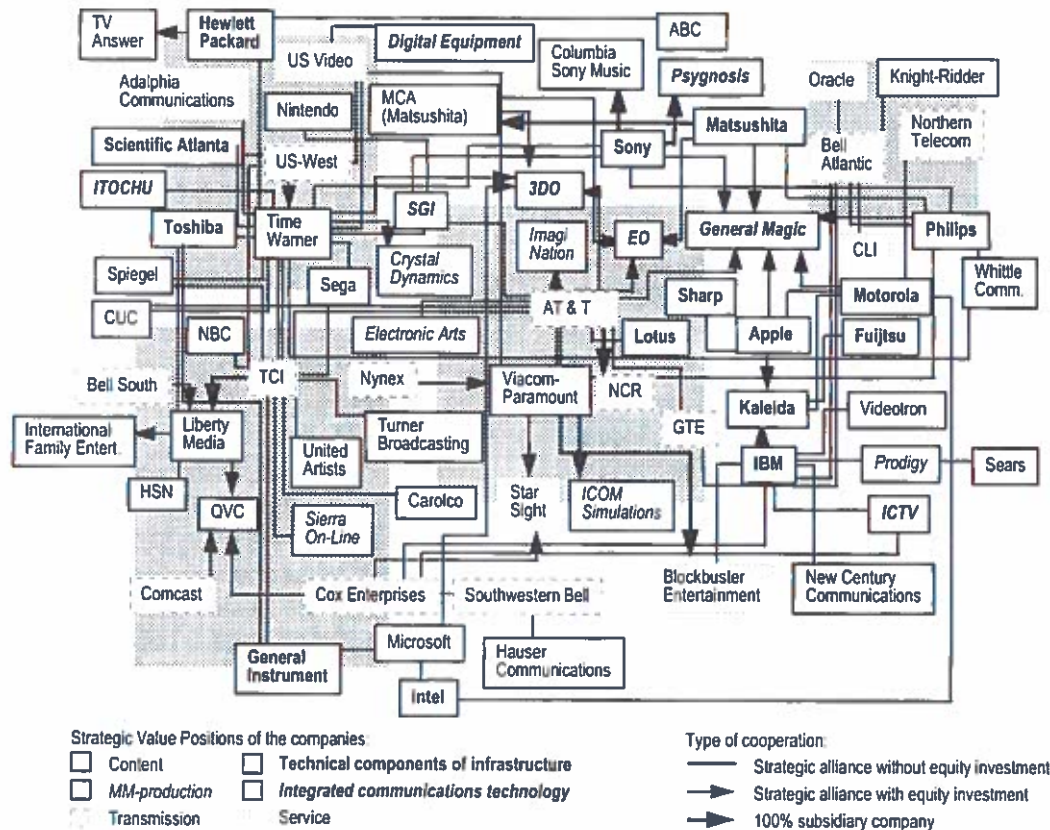


Fig. 4. System-alliances in the American market for private on-line MM.³⁸

reaucratic decision-making.³⁵ Many companies have realized the strategic key position of content and pursued integrative strategies via acquisition in this SVP. Important acquisitions have been undertaken by Sony (CBS Records, Columbia Pictures), Philips (Polygram), Viacom (Paramount) and Matsushita (MCA).

In Europe only few industry-crossing alliances have been developed and can hardly be grouped to system-alliances. In the United States the market evolution is further progressed and the density of alliances between firms of diverse SVPs is therefore higher. It can be assumed that these alliances determine a first competitive structure, which, however, does not have to endure in the long run. Figure 4 shows the most important alliances in the American market for 'private on-line MM'. In the diagram four corporate networks of different sizes might be distinguished. These networks connect the six SVPs via strategic alliances. Within the system-alliances preliminary coordi-

nate governance structures become apparent. In this phase of market evolution they reflect above all the integration endeavours of single firms. The partners with the highest number of interlacings within the respective system-alliances are Time Warner, TCI, AT&T and Bell Atlantic. They connect mostly partners with complementary SVPs, so that they can act as a coordinative organ in the cooperation. Siebert³⁶ has observed that firms which contribute a large fraction to the value creation have frequently assumed the role of a coordinator. In the American MM-market AT&T has already announced its intention to take over the role of a 'clearing house' for programmes and services in the coming information age.³⁷

The striking interlaces between the system-alliances are, amongst other reasons, reflections of the still uncertain development of the market and the competitive environment. Connections to a variety of different firms serve as a security in case of an abortive cooperation

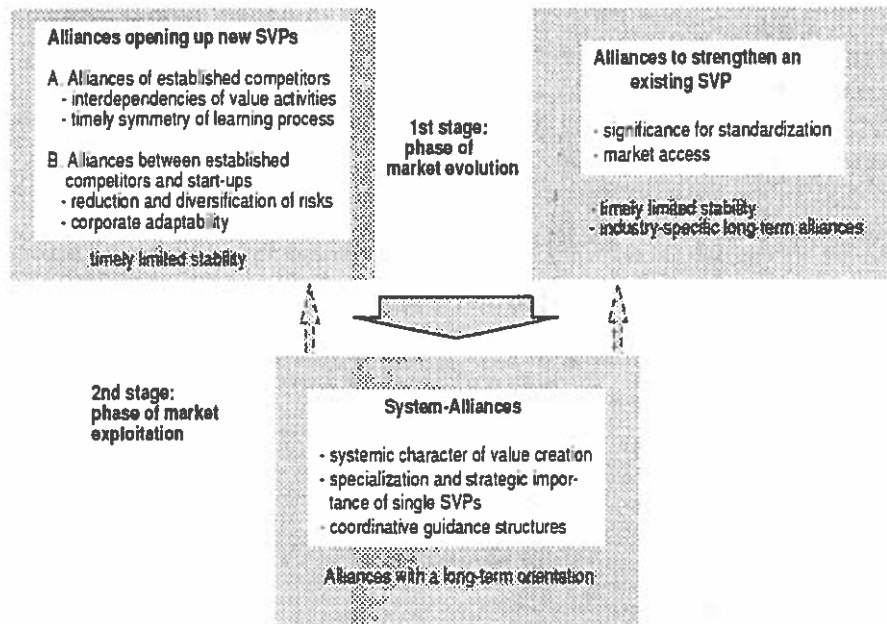


Fig. 5. Characteristics of types of alliances in the MM-market.

with other partners. In the future the number of these 'testing alliances' will most probably diminish in a kind of selection process. Connections between system-alliances, however, will persist in the SVPs content and MM-production because of their high strategic value. The tele-shopping channel CUC International, is both a partner in the system-alliances with AT&T and Time Warner. In these strategically important SVPs a number of system-alliance crossing cooperations will continue to exist, as suppliers in this SVP seek a wide penetration of their software.

4. Summary and conclusion

As already stated by way of introduction, the three types of alliances have to be seen in a global context as to their strategic dimensions. Figure 5 summarizes the interdependencies between the alliances and their respective strategic significance. Both the alliances aimed at gaining access to new SVPs, as well as the alliances directed to foster an individual SVP are characterized by cooperative motives, which mostly guarantee only limited stability. Cooper-

ative strategies between established firms are formed because mutual learning effects can be realized. Their instability results from asymmetries of specialization and appropriability of know-how. Strategic alliances between established firms and small start-ups are similarly guided by mutual interests. The small pioneering firm represents a kind of 'risk-buffer' for the established firm, since the big company does not expose itself to the entire market risk, and yet it wins a partner who is able to react in a more flexible way to the dynamic environment. The alliances are generally only sustainable in the medium and long run, as the small pioneering firm is unilaterally exposed to the opportunistic behaviour of the bigger partner. In case of lacking success, the established competitor can easily disassociate himself from the equity investment. In the opposite case, he preserves the opportunity to completely take over the company. Alliances with the objective of strengthening an individual SVP are in most cases guided by limited objectives, but can be long-term orientated in specific industries (motive of market access in the telecommunications industry).

System-alliances are characterized by a high-

er degree of stability because of the systemic interaction of the partner-specific value contributions. They represent the prerequisite to provide a final product or service to the market. The first two types of alliances can be a starting point for the system-alliances by gaining access to new SVPs or strengthening an individual SVP. Thus it might be possible that alliance partners, cooperating to exploit a new SVP, continue their partnership in the form of a system-alliance. Similarly the strengthening of one's own SVP can be the basis for the participation in a system-alliance.

The implications of this reasoning must be procedures of alliance planning, which consider both the long and short term implications of these three basic forms of alliances. By way of alliances in the first category, a firm has to create favourable operating conditions for the phase of market exploitation. Either a firm can try to increase its competitiveness by focused, short-term alliances on the first type, or the partner selection of the first type is undertaken with regard to a possible later cooperation in a system-alliance. In individual cases, repercussions can result from a system-alliance. Through a cooperation in the phase of market exploitation alliances between single members of a system-alliance might also be formed, which either aim at a further development of the value components or at strengthening a competitive position within a system-alliance. The three-fold reference scheme for strategic alliances presented in this essay should serve as a basic framework to determine the cooperative strategies for a competitor in the MM-market. Since the different kinds of alliances assume different functions in the process of market evolution, firms should take into consideration all three strategic dimensions when devising their future competitive strategy in the MM-market.

Notes

¹The author wishes to thank Mr Florian Lahnstein, Managing Director of Telemedia GmbH, and various other executives of the Bertelsmann AG for their close cooperation and support of this research.

²Because of the early stage of market development empirical studies on cooperative agreements in the MM market are not available. The following remarks are based on a close observation of the emerging MM industry and 23 interviews with senior executives in the U.S., Germany and the Netherlands.

³Other models of market segmentation differentiate between 'island-MM' (PC-Multimedia-Systems) and 'wire-Multimedia' (Communication and Distribution Systems for Multimedia); Gerpott, *Medienmärkte*, p. 3; as well as between 'content-centered', 'presentation-centered', 'office-centered' and 'operation centered' applications; Fetterman/Gupta, *Multimedia*, p. 47.

⁴Shepard, *Industrial Organization*, p. 46.

⁵MM-Servers consist either of optical or magnetic discs, which currently possess storage capacities of 2–4 Gbyte. The central storage medium requires discs with roughly 10 Gbyte, which will be available in a few years; Ramanathan/Vin/Rangan, *Dial-up services*, p. 1307.

⁶This depiction is simplified. A number of scenarios exist for the transition of traditional network architectures (coaxial and copper cable) to MM-capable, integrated broadband networks; Bear Stearns, *New Age Media*, 44 ff., Freed/Derfler, *Information Highway*, pp. 124–125.

⁷Gerpott employs this term for firms in new as well as in traditional areas of value creation; Gerpott, *Medienmärkte*, p. 8.

⁸Content providers thus number not only the classical media industry, but also consumer electronics and transaction services, which comprise in their turn a variety of industries (banks, insurances, educational centers, advertising agencies).

⁹MM service is here depicted at the interface between the SVP 'content creation' and 'owners of transmission infrastructure'. Besides the resources and competences of the SVP, storage technology (as a part of the computer industry) is required in support. Microelectronics also assume a subsidiary function in other SVPs.

¹⁰The term 'strategic alliance' will hence be used as a synonym for cooperation and partnership.

¹¹Landler/Grover, *Media Mania*, p. 96.

¹²The access to a new SVP can, for example, be combined with the long-term goal to establish a system-alliance. Similarly an alliance with a partner from the same SVP can serve as a means to gain joint access to a new SVP.

¹³TEECE, *Value*, pp. 70–72.

¹⁴'Thus market procurement is the preferred supply mode where asset specificity is slight.' Williamson, *Capitalism*, p. 91.

¹⁵This is already reflected by the bipartite value chain for private on- and off-line MM.

¹⁶TEECE, *Value*, p. 80; Gerybadze, *Innovation*, p. 156–157.

¹⁷C.f. Gerybadze, who considers the time frame of entry and exit as a criterion for the superiority and stability of an alliance solution; Gerybadze, *Innovation*, p. 155–156.

¹⁸Kleeback, *Technologieentwicklung*, p. 103.

¹⁹MM service is left out of consideration, as no independent start-up has so far adopted this SVP.

²⁰Hannan/Freeman, *Structural Inertia*, p. 153.

²¹MacDonald/Ollerios, *Complementarity*, p. 168.

²²TEECE, *Competition*, p. 21.

²³Hamel/Doz/Prahalad, *Marktrivalen*, p. 88; Magee, *Succes*, p. 61.

²⁴TEECE, *Value*, p. 69.

²⁵See Fetterman/Gupta, *Multimedia*, 185 for further detail.

²⁶Backhaus/Piltz, *Form*, p. 6.

²⁷Interest groups in this context are understood in a broader sense as a contractual agreement on joint interests of autonomous companies; Wöhe, *Betriebswirtschaftslehre*, p. 411. They are not to be included into the term 'strategic alliance'.

²⁸ Gerybadze, Innovation, p. 157.

²⁹ Telekom, AG, p. 41.

³⁰ Roseman/Nilson, Realities, pp. 2–4.

³¹ Haagedoorn/Schakenraad, Information Technologies, p. 183.

³² John Malone, CEO of Telecommunications Inc.: 'So I don't see any big impediments for us [...] having a true, full service network out there by the end of '96, [...]'; cited in Kline, Infobahn, 131.; in Western Europe a full implementation of optic fiber in regional networks is projected for 1996/97; FAZ 23.11.93.

³³ Williamson considers the opportunistic behaviour of the coalition partners to have a destabilizing effect on interorganizational coalitions; Williamson, Capitalism, pp. 47–49.

³⁴ Klein/Crawford/Alchian have shown in an analysis of transaction costs that integration is superior to a market solution, if high gains are to be expected in the value chain. They argue that the parties in a bilateral monopol with an independent supplier and a non-integrated firm lose a lot of resources bargaining over the distribution of the gains, Klein/Crawford/Alchian, Vertical Integration, pp. 297–300.

³⁵ Balakrishnan/Wernerfelt, Technical Change, p. 347.

³⁶ Siebert, Ökonomische Analyse, p. 306.

³⁷ Ziegler, AT&M, p. 79.

³⁸ Sources: Hoffmann/Burchardi/Zimmer, Multimedia, p. 226; Wetzler, Multimedia, p. 4; various newspaper articles and annual reports.

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