

# Digital asset management in marketing communication logistics

Gyöngyi Kovács

## The author

Gyöngyi Kovács is acting Assistant Professor at Hanken Swedish School of Economics and Business Administration, Helsinki, Finland.

## Keywords

Digital communication systems, Information management, Marketing process, Supply chain management

## Abstract

Digital asset management as a technology for handling electronic material is used in different contexts for various technical purposes. Explores the effects of this technology on the marketing supply chain, being a new application area of digital asset management solutions. A conceptual framework is provided to describe marketing processes in the world of information technology and marketing communication logistics. Based on a literature review, possible benefits of digital asset management in this setting are presented. Anticipated benefits are evaluated in an indicative case study. The description of marketing supply chains leads to new insights for supply chain management.

## Electronic access

The Emerald Research Register for this journal is available at  
[www.emeraldinsight.com/researchregister](http://www.emeraldinsight.com/researchregister)

The current issue and full text archive of this journal is available at  
[www.emeraldinsight.com/1741-0398.htm](http://www.emeraldinsight.com/1741-0398.htm)

## Introduction

Whenever a company is planning a marketing campaign, many different players are involved in planning and designing packaging and advertising material. These actors have to co-operate according to the objectives set by the company. For this to happen, information and material exchanges will already have taken place. The complexity of this co-operation increases with the number of interactions, actors, countries and legal systems etc. involved. Extended complexity results in long decision processes and lead times (Burgess, 1995; Clift and Vandenbosch, 1999), and/or in stable, co-operative and business networks formed with a long-term perspective. On the other hand, success in marketing campaigns is based on time efficiencies (Hult, 2002; compare Clift and Vandenbosch, 1999) and flexibility (Laing and McKee, 2000). Therefore, advertisers such as manufacturers, brand owners and retailers are looking for a reduction in marketing process lead times, better decision support systems and flexibility (Belmiro *et al.*, 2000) within their partnerships.

Given this context, the following question occurs: How can information technology, more specifically, digital asset management (DAM) assist in achieving these aims? Few definitions of DAM exist, and those given come from various businesses and consultants but not academics. As an example, DAM can be defined as being a "set of coordinated technologies and processes that allow the quick and efficient storage, retrieval, and reuse of digital files. DAM provides the business rules and processes needed to acquire, store, index, secure, search, export and transform these assets and their descriptive information" (Artesia Technologies, 2002). Another commonly used definition of DAM provided by GISTICS' industry report describes DAM being a "systematic organization of digital media files, enabling an authorized individual to quickly find, retrieve, and/or route an item to an authorized or designated person or into a work process" (Moon, 1999). Common to these definitions is a process notion that is, in effect, not shared by all DAM solutions – neither are all the mentioned features available in all DAM systems. Therefore, this paper will take a more general point of view, and perceive DAM from its technological side, seeing it as a set of co-ordinated technologies that allow the digital storage of different files to be shared among various users for different purposes. Thus, DAM solutions[1] can serve as collaboration platforms for inter- and intra-organisational interactions.

The purpose of this paper is to explore the effects of digital asset management (DAM)



implementation on a marketing environment. Therefore, the paper aims to describe DAM solutions, and the marketing supply chain, before introducing the concept of marketing communication logistics.

The effects of DAM on the marketing supply chain are explored in a pilot study. The empirical study is delimited to a single case study, a pilot introduction of a specific DAM solution, KCRnet.db[2], to be used in selected marketing processes of a Finnish textile manufacturer. This pilot covered the implementation phase of the DAM system in the year 2000. As the DAM solution used in the case study was specifically developed for the use in creative marketing processes (Jansson and Salonen, 2000), the processes selected for the empirical investigation were those of advertising and packaging creation. Thus, other processes, e.g. concerning brand control like the assurance of correct displays and logos on points of sales are excluded from the paper, even though they form possible application areas of DAM solutions (France, 2002; MediaBin, 2002a, 2002b).

## Research methods

Based on a literature review, DAM solutions are described, identifying their relevant features and characteristics. As academic literature in this field is scant (AMIA, 1999), relevant literature includes articles from journals directed to practitioners (e.g. journals like *Digital Publishing Solution* and *Graphic Arts Monthly*), industry reports (Frost and Sullivan, 2001; GISTICS, 2002) and different consultancy reports that often offer their own DAM solutions (Artesia Technologies and MediaBin). Nevertheless, this literature helps to introduce DAM to a scientific audience. Together, with literature on information logistics, this review leads to identifying a set of anticipated benefits of DAM.

The choice of methods in the empirical study originated from its exploratory purpose of the study, because qualitative methods such as semi-structured interviews and case studies are seen as exceptionally well suited for exploring new phenomena and environments (Eisenhardt, 1989; Ghauri and Grønhaug, 2002). However, this choice was also predetermined by the environment of the pilot study being conducted for and with the consultancy offering the DAM system.

This consultancy project also determined the data collection methods. In a workshop character, semi-structured group interviews were conducted with relevant managers of the focal company, other organisational actors that were selected by the

focal company based on their involvement in the selected processes, and with managers from both the focal company and these other organisational actors. All interviews pursued the aim to document and depict the existent marketing processes that were selected for the study. A second round of workshops with the original interviewees helped to ensure the construct validity (Ellram, 1996) of these cross-organisational process charts. Cross-organisational processes are often used in supply chain management (SCM) literature (Bagchi and Skjøtt-Larsen, 2002), and build a core element in the SCM framework (Lambert *et al.*, 1998).

In the starting phase of the pilot project, the workshops concentrated on actual, i.e. "as is" business processes, and depicted future processes with the use of DAM as perceived by the interviewees. After DAM implementation, the business processes were mapped again, in order to compare the expectations of the focal company with the results of the implementation. In sum, multiple sources of evidence (Ellram, 1996), i.e. semi-structured interviews, process descriptions, meeting minutes from workshops and project status reports were used in the case study.

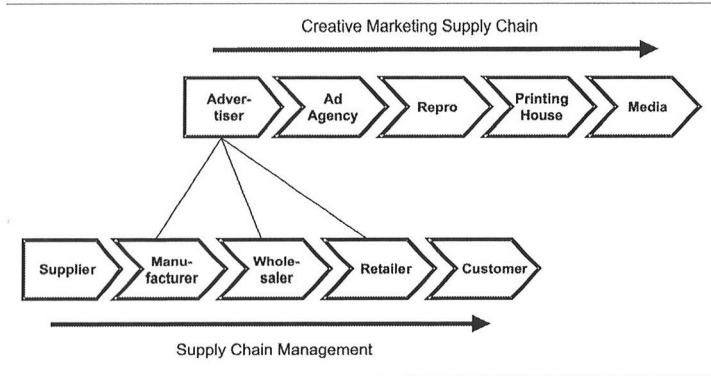
## The marketing supply chain

Typical actors taking part in creative marketing processes are the advertiser, advertising agency, printing house, repro, and media houses. Other actors, e.g. lawyers or translators can be integrated in the marketing supply chain depending on a process or project basis. In more general terms, the same actors can be grouped into the originator of the campaign, the campaign creator, technical operationalisers, and mediators.

These actors can be viewed as a part of a business network (Easton, 1992; Håkansson and Snehota, 1989), a strategic net formed to pursue a common aim (Möller *et al.*, 2000). At the same time, following the creative process in advertising, the given actors can be depicted (as in Figure 1) as a supply chain.

As usual in SCM literature (see, for example, Juga, 1996; Lamming *et al.*, 2000; Phillips and Phillips, 1998), this paper takes a focal company perspective. Often, the chosen focal company in SCM literature is the organisation assuming most power in the supply chain, or the last assembler of a final product, which even leads to denominations such as "WalMart's supply chain" (Mentzer *et al.*, 2001), or "DaimlerChrysler's supply chain" (Bagchi and Skjøtt-Larsen, 2002). This notion can also be used for the focal company of a marketing supply chain, as the marketing collateral, i.e. the material exchanged among the actors of the chain

Figure 1 The creative marketing supply chain



is heavily bound to the focal company. The focal company assumes the role of the advertiser, which can be either manufacturer, wholesaler or retailer in the supply chain. However, not the main product or material flow of an assembly line is followed; rather, the material is strictly confined to marketing collateral. This leads to a core distinction from SCM literature, because the material flow in the marketing supply chain is not confined to the core product of an organisation, and does not necessarily touch on the core competences of the focal company. Nevertheless, it is this very material flow that serves as a common denominator and delimits the organisational actors of the marketing supply chain, just like the material flow linking the actors of “traditional” supply chains (Bagchi and Skjøtt-Larsen, 2002; Christopher, 1998; Mentzer *et al.*, 2001).

Furthermore, the focal company in a marketing supply chain is at the same time the originator of the processes, as well as their main customer. Therefore, the marketing supply chain can best be depicted as a network of organisations. This business network consists of various organisations (Håkansson and Snehota, 1989) that co-operate, even pursue the same aims (Möller *et al.*, 2000), and exchange material and information (Easton, 1992).

Business networks are intertwined in terms of activities, actors, and resources (Håkansson and Johanson, 1992). When delimiting the relevant organisational actors for a specific creative marketing process, these actors are tied together while working on the same material, sharing knowledge, material, information and/or technological and financial resources (Håkansson and Snehota, 1995). Processes as chains of activities performed by each organisation are cross-organisational (Lambert *et al.*, 1998). Nevertheless, different actors may not know about the identities of other actors in the same business network. In order to delimit these networks, Möller *et al.* (2000) proposed the introduction of strategic nets, in which the membership of an actor

in a strategic net can be determined by the activities this actor performs, its links to the focal company, and its awareness of belonging to the business network of the focal company.

In this paper, a strategic or value creative net within the marketing supply chain consists of various actors concerned with and actively taking part in a given marketing process. The focal company, who sets the boundaries of this net, usually selects the members of the marketing supply chain contributing to a specific project or process. Therefore, actors are conscious members of a value creative net (compare Möller *et al.*, 2000), performing various different activities of a project or process.

## Information logistics

Various approaches exist in developing information logistics. Information and material flows have been perceived as complementary parts of logistics (Gurão *et al.*, 2001; Christopher, 1998; Rayport and Sviokla, 1995). The term “information logistics” was introduced by Walsh and Koumpis (1998), who wanted to apply logistics principles in information technology, to “reduce information processing time, improve the added and residual value of information, and reduce filtering, processing and distribution costs and ‘leadtimes’ [sic!]”. Information flows were especially stressed in the field since the introduction of the supply chain management concept (Mason-Jones and Towill, 1998; Singh, 1996). Supply chain integration emphasises both physical and information integration, in order to reduce lead times in the chain.

Another approach elevates the importance of information, thus, substituting the material flow (Demkes and Tavasszy, 2000). Material and information flows are decoupled from one another (Christopher and Towill, 2000; Skjøtt-Larsen, 2000), or, the material flow is neglected or does not take place at all. In the latter case, there is a clear shift from material flow and physical distribution to information flow and information logistics. Walsh *et al.* (2000) talk about systems designed for only managing intra- and inter-enterprise information according to logistics principles, while Noorlander (2001) even perceives information itself as the raw material in the information supply chain.

According to Delfmann *et al.* (2002), information logistics in contrast to logistics in e-commerce only comprises the distribution of digital products. In this context, the introduction of an information driven environment and the digitalisation of previously physical material fosters

the emergence of new products and services (Graham and Hardaker, 2000), e.g. in music distribution or the development of e-books.

Thus, information logistics is concerned with the exchange, or in the broader sense, with the distribution and management of information. As Feraud (1998) expresses it, “on some aspects, IS (information system) management and logistics management seem to obey the same principles, and tend towards a quasi-identity, if not in nature, at least in method”. Hence, even though products are decoupled from their former material existence, their handling as information and digital products obey the same principles of logistics as in physical distribution.

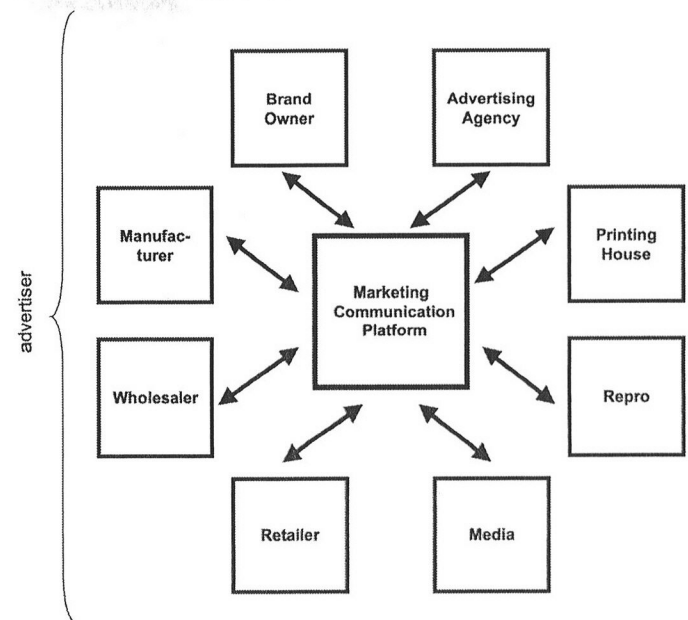
In marketing, a call for information logistics can also be derived from MediaBin's (2002c) statement that “the supply chain for marketing materials is very often less automated than the product supply chain”.

### Marketing communication logistics

In the area of creative marketing processes, the focus is on inter-organisational communication in the marketing supply chain. While information flow is unidirectional, communication actively involves many actors, thus the communication flow is bi- or multidirectional. In its broad meaning, communication includes the sharing of databases (Feraud, 1998). Given this notion, the communication process is multidirectional among the different organisations in the marketing supply chain, as illustrated in Figure 2. Multidirectional communication processes call for the use of communication systems or platforms, i.e. common databases for the use of many members instead of only dyadic communication channels. Tukiainen (2001) defines a communication system as consisting of “communication channels taken into use, the information contents and the rules of communication and the relationship between these things”.

The actors of the marketing supply chain form a communication network (Cheng *et al.*, 2001; see Figure 2), in which a chosen communication system provides the empirics, i.e. the physical possibility for communication (Swan *et al.*, 2000). General advantages expected from communication systems include time efficiencies in the information flow and in decision-making, the possibility of interaction between geographically dispersed groups, and the sharing of databases (Belmiro *et al.*, 2000), much in accordance with the requirements of creative marketing processes.

Figure 2 Multidirectional communication system for creative marketing processes



Source: Modified from Hänninen (2001)

Using information logistics principles for the inter-organisational communication among the members of the marketing supply chain, the notion of marketing communication logistics is introduced. The focus is not on marketing communication as referred to in the broad marketing literature (Kotler, 1988, 1997; Olkkonen *et al.*, 2000), but on specific communication processes between the members of the marketing supply chain. In this context, marketing communication logistics contains all the processes and activities in communication and material distribution concerning advertising and package creation that take place in an organisation and/or among the members of a supply chain.

### Digital asset management

To date, DAM solutions as software tools are designed for many different purposes and environments, not necessarily in the profitable business area. DAM is known from its technical side in digital broadcasting, printing and media, is used in areas such as finance and accounting, or in dealing with intellectual property. Even though its advantages for many areas have been listed in literature (see, for example, Binney, 2001; Caldwell and Moon, 2000; Evans, 2000; Joss, 1998; Porter, 2001), its fit into marketing communication has not yet been studied.

The terms “asset” and “asset management” have their roots in finance and accounting. In this

context, asset management is defined as “the function of controlling cash flows or the duration and maturity of assets and liabilities so as to reduce interest rate risk and aim for optimum return” (CANA Business Interactive, 2000), while for information technology, e.g. the Remedy Corporation (1998) concludes in its manual that “asset management can range from simple inventory to a ‘life span’ monitoring of an asset, from initial request to final disposition”.

The value concept from asset management also exists in the perception of digital assets. When defining digital media files, Caldwell and Moon (2000) state that “media assets implies that digital media files have commercial value – that another party will pay to own or use them”. Indicating this development, revenues from DAM solutions tripled between 1996 and 2000, and the market is forecasted to have a healthy growth rate (Frost and Sullivan, 2001).

Any file of any type is regarded as an asset in DAM, i.e. digital assets can be audio and video files, textual documents, images, or even the information tied to these files. They are “electronic versions of reference materials and various kinds of information that companies and industries used to stockpile in physical format, like groceries” (Knowles, 2000; see also Ross, 1999; Tapscott, 1996). The trend, not unlike in the concept of information logistics (Delfmann *et al.*, 2002), is evidently a shift from physical material and material flow to data handling and information flow. This shift is similarly argued for when describing the benefits of the Internet replacing operations of a classical marketing and distribution channel (Gurău *et al.*, 2001).

Digital assets are not used up in their consumption, but can be reused and repurposed infinitely (Caldwell and Moon, 2000; Rayport and Sviokla, 1995), a unique characteristic sometimes described as the “law of digital assets”. Together with the digitalisation of material, this feature raises the expectations of DAM leading to process and project time and cost efficiencies.

### Common DAM features and characteristics

Key features of DAM software can be explained in a hierarchical system summarised in Figure 3, but are not necessarily all included in each application available on the market (for a comparison of system functionalities provided by different DAM providers, see, for example, AMIA, 1999; Porter, 2001).

### Technological aspects of DAM

Following the technological extension of Figure 3, the described features range from the support of different file formats to a web-based platform and browser. The extension is not a sequential description – the illustrated steps can be taken in a different order.

For any DAM solution it is necessary to support various file formats, though the types and amount of formats chosen may vary from the application context of the software. Extending this support to Mac and PC-used formats is not always necessary, though a combination of these systems allows users of different working environments to collaborate on a common platform. The use of standard subsystems is recommended for a further extension of technical environments, in which the application can be used.

Still, links to further systems are useful (Toner, 1999), especially in very technical application areas, e.g. digital broadcasting or prepress activities like file conversions from three-colour (RGB – Red Green Blue) digital material to using the CMYK (Cyan Magenta Yellow Key) system of four-colour printable documents.

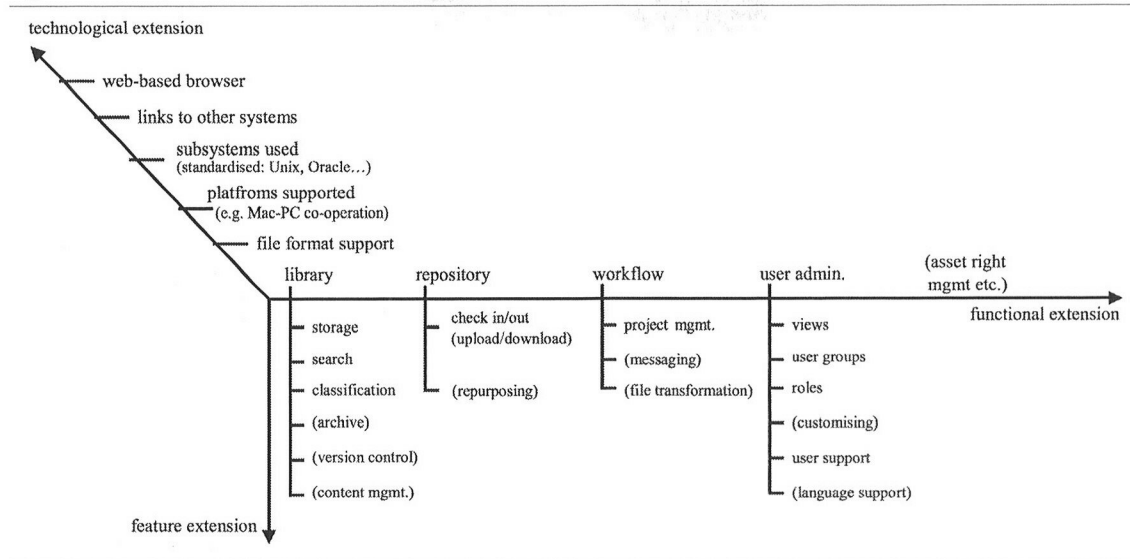
Web-based DAM avoids the question of standard subsystems, and assists in supporting various file formats. Also, web-based applications can be utilised in both Mac and PC environments. A library with Internet access and browser connects the members of the supply chain regardless of their locations. Remote access to the library is possible, which means that the access does not depend on a local area network. This enables co-operation, team-building and information exchange on the level of a global supply chain (Leland, 2000), team-building being an essential requirement in the development of standardised global products (Yelkur and Herbig, 1996). However, the digitalisation of material and the extensive use of the Internet introduce concerns about the quality and reliability of electronic systems (Gurău *et al.*, 2001).

### The function-feature matrix

Generally, the basis for DAM software is a common library for several users (see Figure 3), with storage, search and classification functions (Toner, 1999). The establishment of a file system with common denomination patterns is referred to as classifications, while the denominating fields are part of the metadata attached to an asset (Toner, 1999).

Other features, e.g. archiving or version control, can be added to libraries. These are symbolised in Figure 3 with brackets. Archiving signifies that “old” assets are stored and classified in a central archive. An existing central archive implies the

Figure 3 Common DAM characteristics



possibility to search for these images, sounds or motion pictures, texts etc. Version control ensures the use of the correct version of an asset in its right environment, or in other words, “to get the right file in the right format to the right place at the right time” (Artesia Technologies, 2002), comparable with mission statements of logistics, ensuring the “availability of the right good or service in the right quantity at the right place and time, in the desired condition to the right customer, while making the greatest contribution to the firm” (Ballou, 1999), or, as Coyle *et al.* (1996) state it, at the right cost. In this manner, the users of a centralised system can be ensured to work with the right material or asset, raising the expectation of quality assurance by DAM.

Compared to other solutions like document management and business records archiving, Byram *et al.* (2000) describe DAM as a repository dealing with live data on a high data usage level. Therefore, the assets should be modifiable. In order to establish the connection between the actual use of an asset by a user and the library function, the assets have to be checked out and in (or down and uploaded). Once an asset is modifiable, it can be reused and even repurposed. The systematic reuse of assets can take place in and for an organisation, or even by the members of its supply chain (Leland, 2000). In journalism (Toner, 1999) and catalogue creation, images can be manipulated, their orders changed and the catalogue reissued (Rayport and Sviokla, 1995). Following the law of digital assets, often no new material is needed, which decreases the workload in a project or process and leads to cost efficiencies (Rayport and Sviokla, 1995; Ross, 1999), resulting in an increased productivity (Joss, 1998).

Process definition and workflow control vary from process automation in highly technical processes like digital publishing (Leland, 2000; Toner, 1999) and file conversions, e.g. in prepress operations, to plain notification and messaging systems. Generally, workflow definition and control leads to process standardisation, assuring the quality and control of processes (Ross, 1999). Time efficiencies can be achieved when workflow control in DAM is combined with the automatic routing of assets (Moon, 1999).

Different user groups implicate different rights of access and retrieval of the assets. Without managing the access of different users to an asset, “just launching a shared repository will lead to a content-rich free-for-all” (Bock, 2002). User groups can be defined according to their role in the supply chain or according to teams for certain projects and processes (Leland, 2000). From a supply chain perspective, customers in the role of end consumers can build an own user group, which enables the process owner and certain supply chain members to observe their user behaviour.

### Anticipated benefits of DAM

DAM deployments are driven by companies expecting “lower costs, better quality, faster production cycles, and incrementally increased revenue through reuse, repurposing, and redistribution” of their assets (Leland, 2000). Thus, the anticipated benefits of DAM can be loosely categorised into the following groups: A shortage of project cycle times (Caldwell and Moon, 2000) and costs (Rayport and Sviokla,

1995), process quality assurance and control combined with workflow efficiency (Ross, 1999; Toner, 1999), and the improvement of co-operation and communication (Ross, 1999) of even global teams through remote access to the same material. Other general benefits of DAM can be derived from the shift from physical to digital material, and the law of digital assets facilitating an infinite reuse of assets (Caldwell and Moon, 2000; Rayport and Sviokla, 1995). In sum, the management of a company's digital assets can provide it with a competitive advantage (Bock, 2002).

### DAM in a creative marketing environment

Assets used in creative marketing include logos, taglines, photographs, images, presentations, style guidelines, colours and fonts (MediaBin, 2002b), text documents along with ready-made documents for newspaper advertising, audio and video files and spots, with the purpose for publishing in different formats and in different media (Leland, 2000). These digital assets are used to create and deploy "marketing deliverables that promote the company and its products" (MediaBin, 2002b).

In the case study, the aim of the pilot project was to determine the usability of DAM in a marketing environment, and to gain feedback for further software development. As the aim of the consultancy differed from the purpose of this paper, the study could only highlight some of the dimensions of DAM mentioned in the literature review. Thus, the consultancy pilot project did not evaluate every anticipated benefit of DAM, rather, it focused on the digitalisation of material, and the measures of lead times and the extents of manual labour. Nevertheless, the empirical study indicates some of the effects of DAM implementation.

The case study involved a gradual implementation of the DAM system; first, only the advertiser, a textile manufacturing company, and the software provider documented the actual processes before DAM implementation. Various parts of the focal company's organisation, i.e. manufacturing and design departments took part in the project, forming cross-functional teams. In this phase, relevant further actors of the focal company's marketing supply chain were identified, and later granted access to the same DAM system. These actors included an advertising agency, a photographer, repro, and printing house (see Figure 4). Given the involvement of the described actors, the DAM solution served as a communication platform or network (Cheng *et al.*, 2001) for both inter- and intra-organisational interactions.

The gradual implementation process followed the actual, i.e. pre-DAM processes of the focal company. Therefore, no changes occurred in the composition of actors in the marketing supply chain during the case study.

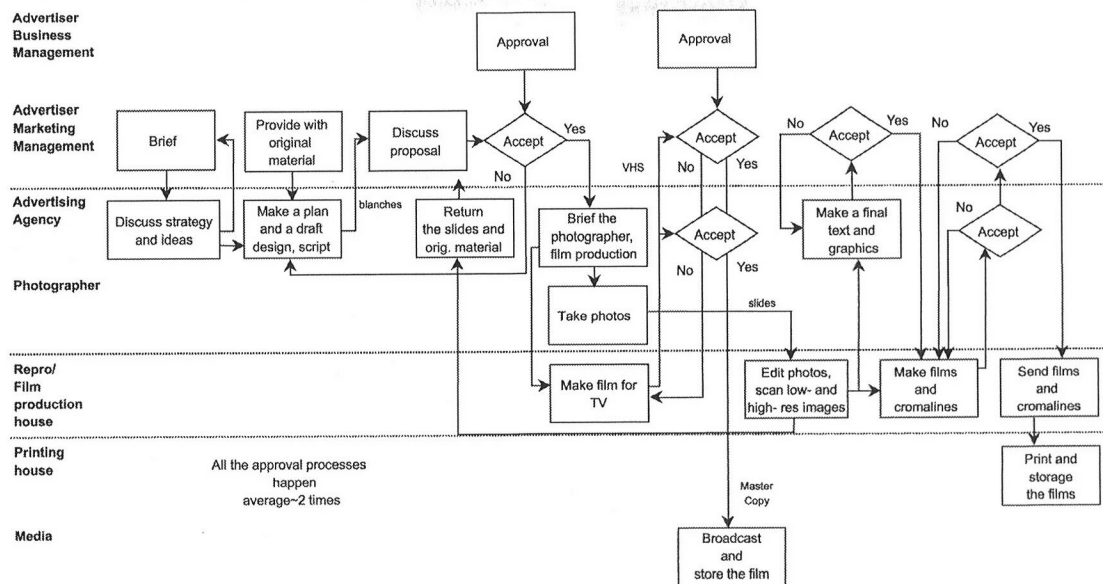
### Discussion of empirical results

From a technical perspective, the support of different file formats and platforms proved essential in the empirical study, given that the different actors of the marketing supply chain used different systems and operating environments, i.e. "creative" staff like the photographer and the advertising agency preferred a Mac environment, while the advertiser used PCs. A web-based browser ensured the remote access of different actors to the digital assets used. The DAM solution itself could be described as a central repository, including all basic library and user administration features, supported by routing and notification features of workflow control.

For the implementation of the DAM solution, some process adaptations were necessary. Formalising the processes contributed to their quality assurance (Martínez Fuentes *et al.*, 2000). Other adaptations included a drastic change in the way of work and material exchange in and between the organisations of the project: Instead of sending print-outs to the advertiser for approval and to the next organisation for further processing, the material was digitalised (compare Delfmann *et al.*, 2002; Gurău *et al.*, 2001) and stored centrally in the DAM repository. Not only did this make physical logistics processes obsolete, but made the digital material available to all users in the project at the same time.

Check-in and out features of the DAM solution ensured that no two users could modify assets at the same time, i.e. no parallel work was done. The general shift from physical to digital material, and from material to information logistics, first lead to reductions of process cycle times (compare Gurău *et al.*, 2001). Process cycle times were defined as the total time needed from the beginning of the first activity in a process till the finalisation of advertising or packaging material. The law of digital assets gained special importance in the packaging creation processes. Here, once taken images could be reused and modified without the collection of new material (Caldwell and Moon, 2000; Rayport and Sviokla, 1995), affecting both process cycle times and workload in terms of manual labour. The remote access of actors to the digital assets had a positive impact on co-operation and communication among project members, meeting the expectations from literature (Ross, 1999). This was supported by the notification support of the workflow features, which informed

Figure 4 The process of advertising material creation



Source: Jansson and Rossi (2000)

different actors in the process when to access an asset for tasks like an approval. Digital approval, i.e. the activities of “approval” and decisions labelled “accept” in the process chart (see Figure 4) accounted for the highest impact on process cycle times. At the same time, technical processing and file conversions lead to a notable reduction of manual labour (Jansson and Rossi, 2000).

Based on experiences from the pilot project the focal company estimated that applying DAM in its creative marketing processes could reduce process cycle times by 50-90 per cent (Jansson and Rossi, 2000). The high margin of effects is explained by high process cycle times owing to geographical distances and physical transportation (in the case between the advertising agency and the focal company). Simultaneously, the required manual labour in the project could be reduced by 30 per cent (Jansson and Rossi, 2000).

## Conclusions and further research

In order to create successful marketing campaigns, expectations of time efficiencies (Hult, 2002) and organisational flexibility, especially flexibility in organisational partnerships (Belmiro *et al.*, 2000; Laing and McKee, 2000) are raised for the creative marketing processes. Therefore, this paper explored the possibilities of DAM to contribute in meeting these expectations.

According to the literature review, which covered the impact of DAM solutions in other

fields of application than marketing, the implementation of DAM could be associated with a shift from physical to digital material (Knowles, 2000; Ross, 1999; Tapscott, 1996), and thus, from physical distribution to information logistics. Simultaneously, the law of digital assets indicated their non-consumption in the process (Caldwell and Moon, 2000; Rayport and Sviokla, 1995), consequently, their possibly infinite reuse, combined with repurposing (Leland, 2000), leading to increased productivity (Joss, 1998). The anticipated benefits of DAM included a reduction in project and process cycle times (Caldwell and Moon, 2000; Leland, 2000), cost efficiencies (Rayport and Sviokla, 1995), and process quality assurance and control, together with workflow efficiencies (Moon, 1999; Ross, 1999; Toner, 1999). At the same time, improvements in co-operation and communication among the users (Ross, 1999), and the creation and flexibility of global teams (Leland, 2000) were indicated in literature, generally creating a competitive advantage to the focal company (Bock, 2002).

When listing the anticipated benefits of DAM solutions and comparing them to the requirements of creative marketing processes, the application of DAM in the working environment of these processes appears to provide an answer to both the expectation of time efficiencies (Hult, 2002; compared to Caldwell and Moon, 2000; Leland, 2000) and flexibility in partnerships in the marketing supply chain (Belmiro *et al.*, 2000; Laing and McKee, 2000; compared to Leland, 2000; Ross, 1999) raised for the creative



marketing environment. The case study could confirm these expectations for the measures of time efficiencies, i.e. a decrease of process cycle times, and the extent of workload (Jansson and Rossi, 2000). However, a validation of these results, particularly the extent of the estimates would be necessary.

As not all anticipated benefits were measured or observed in the case study, further research is needed in this area. Furthermore, it would be interesting to extend the research to other marketing processes. Nevertheless, the case study demonstrated that DAM has a significant impact on creative marketing processes, and on marketing communication logistics in general.

The description of the marketing supply chain leads to further conclusions for supply chain management. Interestingly, if other than the main material flow is followed, the supplier-customer pattern of a supply chain is disrupted and less obvious. In effect, raw material suppliers and end customers of a process can even coincide, as it was the case in the marketing supply chain. Here, the advertiser is at the same time the originator and the customer of creative marketing processes – even though the common denominator of these processes is a material flow (Bagchi and Skjøtt-Larsen, 2002; Christopher, 1998; Easton, 1992; Mentzer *et al.*, 2001).

Furthermore, the use of DAM solutions showed how these can technically assist in creating value creative nets. By granting different user rights to different actors in the marketing communication processes, the created network (Cheng *et al.*, 2001) fulfils the characteristics of a value creative net (Möller *et al.*, 2000): The actors are linked to the focal company and pursue the same aims but do not necessarily know about the identities of other organisations in the net. This may have an interesting implication for SCM, showing that commitment to an aim and collaboration, even integration of independent actors in cross-organisational processes (Lambert *et al.*, 1998) can occur through the common links to a business network (Möller *et al.*, 2000) or supply chain (Christopher, 1998; Mentzer *et al.*, 2001) without revealing key features of other actors such as their identity. The management of strategic or value creative nets can be seen as a cornerstone of SCM (Möller *et al.*, 2000).

## Notes

- 1 Other denominations for these technologies are digital asset warehousing (Grimes, 1998), digital content management (Hamilton, 2002), media asset management (Moon, 1999), digital media asset management (Frost and Sullivan, 2001), brand resource management (GISTICS,

2002), or brand asset management (France, 1997; MediaBin, 2002a, 2002b).

- 2 KCRnet.db is a registered trademark of KCRnet Oy, Finland.

## References

- AMIA (1999), "AMIA questionnaire on digital asset management software functionality", *Proceedings from the Annual 1999 AMIA Conference, Association of Moving Image Archivists, Montreal, Canada*, November, available at: [www.amianet.org/11\\_Information/11h1\\_DigitalQuest.html](http://www.amianet.org/11_Information/11h1_DigitalQuest.html) (accessed 5 August 2002).
- Artesia Technologies (2002), *What is DAM?*, Artesia Technologies, available at: [www.artesiatech.com/what\\_dam.html](http://www.artesiatech.com/what_dam.html) (accessed 5 August 2002).
- Bagchi, P. and Skjøtt-Larsen, T. (2002), "Organizational integration in supply chains: a contingency approach", *Global Journal of Flexible Systems Management*, Vol. 3 No. 1, pp. 1-10.
- Ballou, R. (1999), *Business Logistics Management*, 4th ed., Prentice Hall International, Upper Saddle River, NJ.
- Belmiro, T.R., Gardiner, P.D., Simmons, J.E.L., Santos, F.C.A. and Rentes, A.F. (2000), "Corporate communications within a BPR context", *Business Process Management Journal*, Vol. 6 No. 4, pp. 286-303.
- Binney, D. (2001), "The knowledge management spectrum – understanding the KM landscape", *Journal of Knowledge Management*, Vol. 5 No. 1, pp. 33-42.
- Bock, G.E. (2002), "MediaBin 2.0 as an Enterprise-Wide Digital Asset Management Solution. Organizing an Infrastructure for Managing Brand-Related Images and Other Digitized Resources", Patricia Seybold Group's Customers.com® Strategic Planning Service, 31 January.
- Burgess, T.F. (1995), "Cycle time, decisions, and complexity in business simulation/games", *Simulation & Gaming*, Vol. 26 No. 3, pp. 376-83.
- Byram, J.L., Caldwell, C. and Moon, M. (2000), *7 Best Practices for the iCorp. DAMroadmaps.1.0.handout*, GISTICS, Oakland, CA.
- Caldwell, C.E. and Moon, M. (2000), "Smart Media Vendors Report 2000. Profiles and assessments of solution providers and their offerings", *VPSM.Report2000.1.Ob.*, GISTICS, Oakland, CA.
- CANA Business Interactive (2000), *Business Dictionary*, Caribbean Media Corporation, available at: [www.cananews.com/cbi/businessdictionary.htm](http://www.cananews.com/cbi/businessdictionary.htm) (accessed 15 December 2001).
- Cheng, E.W.L., Li, H., Love, P.E.D. and Irani, Z. (2001), "Network communication in the construction industry", *Corporate Communications: An International Journal*, Vol. 6 No. 2, pp. 61-70.
- Christopher, M. (1998), *Logistics and Supply Chain Management*, 2nd ed., Strategies for Reducing Cost and Improving Service, Prentice Hall, London.
- Christopher, M. and Towill, D.R. (2000), "Supply chain migration from lean and functional to agile and customised", *Supply Chain Management: An International Journal*, Vol. 5 No. 4, pp. 206-13.
- Clift, T.B. and Vandenbosch, M.B. (1999), "Project complexity and effort to reduce product development cycle time", *Journal of Business Research*, Vol. 45, pp. 187-98.
- Coyle, J.J., Bardi, E.J. and Langley, J.C. (1996), *The Management of Business Logistics*, 6th ed., West Publishing, St. Paul, MN.

- Delfmann, W., Albers, S. and Gehring, M. (2002), "The impact of electronic commerce on logistics service providers", *International Journal of Physical Distribution & Logistics Management*, Vol. 32 No. 3, pp. 203-22.
- Demkes, R. and Tavasszy, L.A. (2000), "Benchmarking infrastructure and logistic services across Europe, Asia-Pacific and North America", RIRL/IMRL 2000 Third International Meeting for Research in Logistics, Trois-Rivières, Canada.
- Easton, G. (1992), "Industrial networks: a review", in Axelsson, B. and Easton, G. (Eds), *Industrial Networks. A New View of Reality*, Routledge, London, pp. 3-27.
- Eisenhardt, K.M. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14 No. 4, pp. 532-50.
- Ellram, L. (1996), "The use of case study method in logistics research", *Journal of Business Logistics*, Vol. 17 No. 2, pp. 93-138.
- Evans, P. (2000), "Asset management: no perfect fit", *Seybold Report on Internet Publishing*, Vol. 4 No. 7, p. 18.
- Feraud, G.J.S. (1998), "Research paper: improving strategic decision making in logistics information management – a framework", *Logistics Information Management*, Vol. 11 No. 4, pp. 232-43.
- France, M. (1997), "Protect your 'digital brand' by cataloging existing images", *South Florida Business Journal*, August, available at: <http://southflorida.bizjournals.com/southflorida/stories/1997/08/04/focus4.html> (accessed 6 August 2002).
- Frost & Sullivan (2001), *Digital Media Management Systems Markets, Executive Summary*, Frost & Sullivan, available at: [www.frost.com](http://www.frost.com) (accessed 6 August 2002).
- Ghauri, P. and Grønhaug, K. (2002), *Research Methods in Business Studies. A Practical Guide*, 2nd ed., Prentice Hall, Harlow.
- GISTICS (2002), *GISTICS Solutions Research Announcing the Digital Asset Management Market Report 2002 by GISTICS Research*, available at: <http://dynamic.gistics.com/site.qry?function=catnt&absrow=3> (accessed 6 August 2002).
- Graham, G. and Hardaker, G. (2000), "Supply-chain management across the Internet", *International Journal of Physical Distribution & Logistics Management*, Vol. 30 No. 3/4, pp. 286-95.
- Grimes, B. (2002), "Digital asset management 101", *TechNews*, Vol. 4 No. 6, available at: [www.naa.org/technews/tn981112/editorial.html](http://www.naa.org/technews/tn981112/editorial.html) (accessed 6 August 2002).
- Gurāu, C., Ranchhod, A. and Hackney, R. (2001), "Internet transactions and physical logistics: conflict or complementarity?", *Logistics Information Management*, Vol. 14 No. 1/2, pp. 33-43.
- Håkansson, H. and Johanson, J. (1992), "A model of industrial networks", in Axelsson, B. and Easton, G. (Eds), *Industrial Networks. A New View of Reality*, Routledge, London, pp. 28-34.
- Håkansson, H. and Snehota, I. (1989), "No business is an island: the network concept of business strategy", *Scandinavian Journal of Management*, Vol. 4 No. 3, pp. 187-200.
- Håkansson, H. and Snehota, I. Eds. (1995), *Developing Relationships in Business Networks*, Routledge, London.
- Hamilton, A. (2002), *Is Asset Management a Business?*, Digital Publishing Solutions, available at: [www.dpsmagazine.com/Features/F\\_2-2/assetmgmntAH.htm](http://www.dpsmagazine.com/Features/F_2-2/assetmgmntAH.htm) (accessed 6 August 2002).
- Hänninen, P. (2001), KCRnet presentation, KCRnet internal material, May.
- Hult, G.T.M. (2002), "Cycle time and industrial marketing. An introduction by the guest editor", *Industrial Marketing Management*, Vol. 31, pp. 287-90.
- Jansson, R. and Rossi, T. Eds. (2000), *Confidential KCRnet Oy Information Memorandum*, Carta, Booz, Allen & Hamilton Oy, December.
- Jansson, R. and Salonen, S. (2000), *KCR-Net Business Plan Version 2.0*, August, Alma Media Oy, Helsinki.
- Joss, M.W. (1998), "Digital asset management solutions", *Electronic Publishing*, Vol. 22 No. 5, p. 32ff.
- Juga, J. (1996), "Organizing for network synergy in logistics. A case study", *International Journal of Physical Distribution & Logistics Management*, Vol. 26 No. 2, pp. 51-67.
- Knowles, S. (2000), "Digital asset management", *Digital Times*, available at: [www.digitaltimes.com](http://www.digitaltimes.com), Sep. (accessed 15 December 2001).
- Kotler, P. (1988), *Marketing Management, Analysis, Planning, Implementation, and Control*, 6th ed., Prentice-Hall, Englewood Cliffs, NJ.
- Laing, A.W. and McKee, L. (2000), "Structuring the marketing function in complex professional service organizations", *European Journal of Marketing*, Vol. 34 No. 5/6, pp. 576-97.
- Lambert, D.M., Cooper, M.C. and Pagh, J.D. (1998), "Supply chain management: implementation issues and research opportunities", *International Journal of Logistics Management*, Vol. 9 No. 2, pp. 1-19.
- Lamming, R., Johnsen, T., Zheng, J. and Harland, C. (2000), "An initial classification of supply networks", *International Journal of Operations & Production Management*, Vol. 20 No. 6, pp. 675-91.
- Leland, L. (2000), "Assessing assets in the networked economy", *Graphic Arts Monthly*, Vol. 72 No. 11, pp. 62-7.
- Martínez Fuentes, C., Balbastre Benavent, F., Escribá Moreno, M.A., González Cruz, T. and Pardo del Val, M. (2000), "Analysis of the implementation of ISO 9000 quality assurance systems", *Work Study*, Vol. 49 No. 6, pp. 229-41.
- Mason-Jones, R. and Towill, D.R. (1998), "Time compression in the supply chain: information is the vital ingredient", *Logistics Information Management*, Vol. 11 No. 2, pp. 93-104.
- MediaBin (2002a), *What is Brand Asset Management?*, MediaBin, available at: [www.mediabin.com/pop.htm](http://www.mediabin.com/pop.htm) (accessed 5 August 2002).
- MediaBin (2002b), *Managing Brand Assets for Competitive Advantage*, White Paper, MediaBin, available at: [www.mediabin.com](http://www.mediabin.com) (accessed 5 August 2002).
- MediaBin (2002c), *Bridging the Gap: Benefits of a Rich Media Repository to Corporate Marketing and IT Groups*, White Paper, MediaBin, available at: [www.mediabin.com](http://www.mediabin.com) (accessed 5 August 2002).
- Mentzer, J.T., deWitt, W., Keebler, J.S., Min, S., Nix, N.W., Smith, C.D. and Zacharia, Z.G. (2001), "Defining supply chain management", *Journal of Business Logistics*, Vol. 22 No. 2, pp. 1-25.
- Möller, K., Pasanen, O. and Rajala, A. (2000), "Value creation networks in mobile telecommunications: creation and management of strategic nets", *Proceedings of the 16th IMP Conference, Bath*.
- Moon, M. (1999), *Media Asset Management Market Report*, GISTICS, Oakwood, CA.
- Noorlander, W. (2001), "Information management: who's controlling who?", *Online*, Vol. 24 No. 1, pp. 36-8.
- Olkkonen, R., Tikkanen, H. and Alajoutsijärvi, K. (2000), "The role of communication in business relationships and networks", *Management Decision*, Vol. 38 No. 6, pp. 403-9.

- Phillips, D.M. and Phillips, J.K. (1998), "A social network analysis of business logistics and transportation", *International Journal of Physical Distribution & Logistics Management*, Vol. 28 No. 5, pp. 328-48.
- Porter, D. (2001), "Digital assets to be DAMed", *Presentations*, Vol. 15 No. 2, pp. 68-70.
- Rayport, J.F. and Sviokla, J.J. (2000), "Exploiting the virtual value chain", *Harvard Business Review*, Nov-Dec, pp. 75-85.
- Remedy Corporation (1998), *Asset Management 3.0*, available at: [http://supportweb.remedy.com/docs/eBIS/AssetMgt/3.0/manuals/pages/am\\_start.htm](http://supportweb.remedy.com/docs/eBIS/AssetMgt/3.0/manuals/pages/am_start.htm) (accessed 15 December 2001).
- Ross, T. (1999), *Digital Asset Management. The Art of Archiving*, techexchange.com, September, available at: [www.techexchange.com/thelibrary/DAM.html](http://www.techexchange.com/thelibrary/DAM.html) (accessed 6 August 2002).
- Singh, J. (1996), "The importance of information flow within the supply chain", *Logistics Information Management*, Vol. 9 No. 4, pp. 28-30.
- Skjøtt-Larsen, T. (2000), "European logistics beyond 2000", *International Journal of Physical Distribution & Logistics Management*, Vol. 30 No. 5, pp. 377-87.
- Swan, W., Langford, N., Watson, I. and Varey, R.J. (2000), "Viewing the corporate community as a knowledge network", *Corporate Communications: An International Journal*, Vol. 5 No. 2, pp. 97-106.
- Tapscott, D. (1996), *The Digital Economy. Promise and Peril in the Age of Networked Intelligence*, McGraw-Hill, New York, NY.
- Toner, M. (1999), "DAM it all! Digital asset management: a new name for a familiar game", *Presstime Magazine*, March, available at: [www.naa.org/presstime/9903/dam.html](http://www.naa.org/presstime/9903/dam.html) (accessed 5 August 2002).
- Tukianen, T. (2001), "An agenda model of organisational communication", *Corporate Communications: An International Journal*, Vol. 6 No. 1, pp. 47-52.
- Walsh, P. and Koumpis, A. (1998), "Introducing the concept of information supply chains: the Buddy project", *Logistics Information Management*, Vol. 11 No. 2, p. 74ff.
- Walsh, P., Koumpis, A. and Barziv, O. (2000), "Managing real time interactions in industrial environments based on information supply chains: the ESPRIT ATLAS project", *Logistics Information Management*, Vol. 13 No. 2, p. 94ff.
- Yelkur, R. and Herbig, P. (1996), "Global markets and the new product development process", *Journal of Product & Brand Management*, Vol. 5 No. 6, pp. 38-47.

### Further reading

- Kotler, P. (1992), *Marketing Management*, 7th ed., Prentice-Hall, Englewood Cliffs, NJ.