Multimedia: the light and darkness of a strategic sector

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The multimedia industry has been dogged by an absence of definition, a lack of boundaries and a singular development that have prevented it over the course of different periods from obtaining an equal position within cultural industries as a whole. Multimedia products absorb prior know-how from different cultural industries and these similarities in production processes have very often been considered a simple re-adaptation of pre-existing content which has hindered its own development. Industry peculiarities have made it hard to consider it an autonomous sector with its own features.

Since the 1960s, the term *multimedia* has been used to describe very different products and processes, from an overhead slide projector with audio and video recordings through to more sophisticated systems based on image or sound reproduction facilities synchronised in time, i.e., we are talking about devices created before the popularisation of the computer and its optical supports.

In this evolutionary sense, the multimedia ability of computers is just the latest development in a long road of technical and technological progress. All human groups have built tools and developed techniques with the innate purpose of expressing themselves, of communicating and transmitting their ideas, i.e., transcending the limits of space and time. Cave paintings, manuscripts, the press, the telephone, the wireless telegraph, television and computers are examples of the need to use technology in the communicative act in order to obtain maximum efficiency.

During every period in history, humankind has developed tools to promote and multiply the effect of communication. In this latest period, the synergy between computers and optical supports made it possible to develop creation and communication interfaces ideally suited to the needs of social groups in the late 20th century who wanted to manipulate and interact with a great amount of data and information. The appearance of these networks sent the concept of multimedia into a spin and saw the development of an important industry that received scarce attention from either the local, national or European public institutions charged with revitalising autochthonous cultural industries. The inability to understand the impact of this industry when it first appeared has led to an almost complete dependence on foreign applications, as occurred with the early film industry. Without remedial public policies, market law in an unequal world heightens the dependency on technology and software. It also accentuates the starting differences and prevents the emergence of a content industry that can provide an alternative to the dominant products.

Beginnings of the multimedia industry in Spain and Catalonia

Analysing the multimedia industry is a complex task because of the above-mentioned lack of definition and the intervention of different sectors involved in its production which are undergoing a process of uninterrupted transformation with regard to supports and production techniques. The lack of statistics and reliable regular data

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also make it hard to study the evolution of the sector.

In Spain, work first began with interactive systems based on optical supports in the late 1980s. In countries like the US and Japan, the analogical videodisk won a certain acceptance amongst the teaching and professional sectors, but was mainly used for containing films. Although there were pioneering experiments by companies and universities in Spain, e.g., videodisks from DemoSony, ENTREBANCS, INEM, La Caixa, etc. and the translation of National Geography content by the Planeta publishing company, the technology did not really take off.

The few applications made in this support were not further shored up because of (amongst other reasons) the emergence of digital technologies like CD-Is and especially CD-ROMs (1). However, the capacity limits of these two systems, which made it impossible to include video images in sizes that could meet new demands, were overcome with the appearance of DVDs. DVD was a support that, for the first time, made it possible to include a film on the side of a single disk. The CD-ROM hence became a data-storage support because of its versatility and ease of recording data, for use in promotional, cultural, educational and recreational interactive applications wherever an important component of virtual or videographic image was not required.

Continuing with the historic review that began this section, the events of 1992 (the World Expo in Seville, the celebration of the 500th anniversary of the discovery of America and the Barcelona Olympic Games) took place in different cities and constituted an excellent opportunity for interactive applications and experiments with optical supports. This creative euphoria enabled a significant number of projects to be put into action in the early years and contributed to consolidating the CD-ROM support. These initiatives came from private companies and public institutions and occasionally managed to unite the two on joint projects.

This specific set of circumstances appeared to augur well for the emerging sector of multimedia applications – however, it wasn't to be. A shortfall of computers with multimedia capacity among the population, the proliferation of poor-quality applications, difficulties in marketing and distribution, etc. made it impossible to establish a good penetration of cultural or educational works among users. The only areas that escaped were video games and some products from major multinationals, e.g., Microsoft's Encarta encyclopaedia. But even here there were a number of spectacular failures, e.g., the Encyclopaedia Britannica, which was unable to benefit from its privileged position on the encyclopaedia market in the transition towards optical supports and the Internet.

In the first half of the 1990s, the big Spanish publishing houses (Anaya, Zeta, Planeta-DeAgostini and Enciclopèdia Catalana) decided to initiate multimedia works divisions. In most cases, this meant transferring already published works onto CD-ROMs and only occasionally were interactive applications conceived from the beginning for the new support. Two types of activities were to be seen among the big publishing firms: in-house production and the translation and adaptation of content already consolidated on other markets.

The first type of activity included companies such as Planeta-DeAgostini, which created a new company, Temàtics Multimèdia, S.A., in 1994 with the collaboration of IBM to market and distribute its multimedia products. The scarcity of multimedia equipment among the population was behind this collaboration between a content producer and an IT equipment firm in order to jointly market CD-ROMs of encyclopaedias and the computers able to manage them.

The second type of activity included publishers like Zeta which, through its Zeta Multimèdia Division, specialised in adapting the works of the prestigious English firm Dorling Kindersley. The Federation of Spanish Publishers Unions (FGEE) carried out a survey in 1998 with 624 private publishing houses to find out the support they used for their products. 28% (175 firms) said production was carried out on other formats or supports as well as paper. The leading alternative was CD-ROMs, with more than 50%, followed by online activities (8%) and DVDs (just 3%). These figures give an idea of the emerging trend among publishers to move their activity to online environments.

The Spanish ISBN Agency distinguishes between two types of works: multimedia books, which contain some type of audiovisual supports, and books on other supports, which only have audiovisual or multimedia documents. These categories do not clearly show the division between the publishing industry and companies devoted to multimedia production that operate on diverse supports. In any case, in both the Spanish and Catalan cases, publishing houses play an important role in multimedia production overall. ISBN figures show that a total of 220 electronic works were produced in Spain in 1994 (including on CD-ROMs, DVDs, CD-Is, CD-Vs, CD-Photos and disks). By 2001, this figure had risen to 3,198 works.

Finally, to understand the evolution of the sector, we have to count the free distribution of particular corporate products. The most active in this field are newspaper companies, which use this strategy to reach end consumers, giving away interactive works in the newspapers, or selling them at a reduced price along with the newspaper. This practice is followed by most of the big Spanish newspapers, including *La Vanguardia, El Periódico, El País and El Mundo.*

The penetration strategy followed by some of the parties involved in the interactive market, which put low-quality products on the market cheaply or for free, also helped lower the prestige of the CD-ROM support. These applications of little cultural, artistic, educational or recreational worth promoted an image of a "rubbish product" that negatively impacted sales of applications generated on CD-ROMs.

During the consolidation of digital supports, a new element appeared on the horizon, in the shape of the Internet. The popularisation of the web among the population and the interactive-applications consumer sector turned the incipient multimedia industry on its head. The evolution of wireless connections through mobile phones is similarly expected to have a great impact on multimedia applications.

Weaknesses of offline production

The multimedia applications industry has run up against a number of obstacles from the beginning, e.g., the lack of defined marketing and distribution channels able to take creative proposals to consumers. "This function goes beyond an efficient logistics structure (despite its great importance) to also include intermediation, market and network management and the location of the sales offer. Control on distribution channels has conditioned and continues to condition the market share of companies and domestic production" (*White Paper on Cultural Industries in Catalonia*, 2002:19). Marketing strategies were originally aimed at catalogue sales because there were no other stable distribution methods. Later came offline products in specialist video game or computer stores and large department stores. Some Catalan companies, e.g., Cromosoma, with different products on the market that enjoyed a good acceptance, decided to market their products through bookshops, department stores or direct sales through online systems. Another company, Barcelona Multimèdia, produced a catalogue of recreational and training products and concentrated efforts on reaching educational cooperatives and specialist bookshops.

The difficulty in finding appropriate marketing channels was only one problem. There were also complications among users when it came to searching and trying out applications, a situation that considerably reduced sales volume. Product ignorance, design and programming faults in the early days that made it difficult to install the applications on computers properly and negative experiences with CD-ROMs of dubious quality were some of the reasons behind low sales. This complex situation proved to be an obstacle to the activity of local companies which programmed their products in different languages to reach foreign market shares, but had neither the capital to invest in costly advertising and marketing campaigns or stable and consolidated distribution channels. The possibilities of getting their products to potential consumers were therefore greatly reduced and the situation was even worse with regard to users outside the domestic market. Big multinationals had fewer obstacles and were able to place their products on the main distribution circuits led by large department stores, helping them obtain optimal market shares for multimedia applications.

Offline producers have not had an easy time of it and the sector has suffered an evident stagnation due to problems of funding, production, distribution and difficulties based on the very evolution of the technology. The creative complexity of a multimedia work that involves different specialists (from scriptwriters to designers, IT workers, producers, narrators, etc.) hinders the creative process and is worsened by the need for a strong initial investment, the ease with which pirate copies can be made and the difficulties creators have in receiving payment based on intellectual property rights.

With regard to technology, the sector has also been hurt by the war between standards and platforms. Shortly after the implementation of CD-ROMs on the market, a new support with more features was to emerge, the DVD. The relative stability of CD-ROMs was brought into question again and DVDs slowly began to win over a higher market share. However, there has yet to be any development beyond film production and applications with little interaction expectations that restrict active user participation.

Most of the DVDs on sale were designed with a primary type of interaction in mind which is structured using more or less complex menus where consumers are limited to a type of interactivity aimed at requesting information. On this support, the most important initiative came from the Planeta publishing company, who in 2000 launched a collection of 100 DVDs, of which 20 were titles that corresponded to adaptations of the National Geography content. The Planeta Group, through the company Planeta Actimedia located in Barcelona, regularly produces works on CD-ROM, DVD and Internet supports. The renovation of works such as *Atlas de España y Portugal* or *Enciclopedia Planeta 2003* guarantee this continuity.

However, CD-ROM and DVD supports have had to share space with specific game console technologies and have witnessed the definitive consolidation of the Internet. Over this long road that began just 20 years ago, interactive application producers have seen the rise and fall of a great many standards and formats, including laser disks (VLP, DVI), compact disks (CD-A, CD-V, CD-I, CD-ROM, CD-Photo) and DVDs.

The specific features of information and communication technologies (ICTs), with the uncertain processes of acceptance and consolidation based on the proliferation of supports and formats that become obsolete in a very short time, or that fail to find permanent distribution channels, have led to a very insecure multimedia market plagued by a number of questions marks, especially for companies with limited human and financial resources, which is the case of most Catalan companies.

European aid

Despite the fact that the European Union has tried to promote the multimedia sector, an analysis of the different programmes developed shows a certain difficulty in defining this sector and implementing an effective aid policy. A preliminary stumbling block consisted of knowing what the interactive content industry covered. A second was defining the objectives and policy that had to be developed to promote the sector. Despite the lack of definitions, European companies have been involved with the various aid programmes implemented. 1,500 companies and institutions have participated in 338 funded offline or online projects, in the different programmes set up between the second half of the 1990s and the year 2000. However, as occurs in other sectors (e.g., films), some of these works enjoyed European funding but were still unable to find a market. For the above-mentioned period, Spain obtained funding for 29 offline projects which included the participation of 37 Spanish companies or institutions (Ramajo, 2001). The public sector played a leading role in this participation, followed by publishing houses and IT-related companies.

Most Catalan and Spanish firms devoted exclusively to multimedia production have had a tough time keeping their heads above water. Many of the pioneering companies devoted to the development of interactive applications were only able to release a couple of titles before being forced to give the game away. Small companies with few workers disappeared from the market after producing a few offline works or were forced to change their activity to hybrid systems or online platforms.

Other companies changed their technology platform and concentrated on online products, which by the end of the 1990s had become an alternative to the marketing of multimedia content. The trend towards Internet publishing is reflected in ISBN figures that show a 388% growth between 2000 and 2001 in the number of titles published online.

Some companies took advantage of the dotcom boom to channel a number of projects. Most of these projects failed to reach the business viability needed to survive. One example was the initiative of the virtual bookshop Veintinueve.com, started up by the Planeta Group, which used an Adobe format to visualise documents. Veintinueve.com closed in May 2001, a year after it had begun. The dotcom crisis had a definitive and sizeable impact on the cultural, scientific, recreational and educational multimedia production sector. This situation of stagnation is complex and is related to uncertainties about financial return due to a lack of models for operating on online platforms.

The scarce penetration of works on CD-ROMs in Spain must also be related to another indicator, i.e., the number of personal computers available. In 2001, this figure stood at just 7 million, i.e., 17 computers for every 100 inhabitants, below the average for Europe (28 computers/100 inhabitants) and the United States (58 computers/100 inhabitants).

The video game sector

The 1980s and 1990s also saw the development of the video game sector, with specific technology platforms that reached different degrees of implementation over successive stages and which included Atari, Nintendo, Sega, PlayStation, Xbox, etc. The video game industry in Spain was colonised by Japanese and American applications in PC and game console (2) versions. Only two companies have been able to sell their products with any degree of success overseas: Dinamic Multimedia (3), with PC Fútbol (1.5 million copies sold) and Pyro Studios, with Commando, which has reached sales and distribution figures that put it in the league of the big foreign hits (Moreno, 2002).

The sales volume of console video games is vastly higher than computer CD games, although the sector has suffered significant complications from not having grown at the expected rate and from having suffered a number of marketing disasters, such as Microsoft's Xbox. On the other hand, the incorporation of CD and DVD readers in some of these platforms has consolidated these supports as an offline multimedia standard among video game consumers.

The Spanish Association of Entertainment Software Distributors and Publishers (ADESE) says there are 15,525 stores specialising in video games in Spain, of which 316 are hypermarkets and 1,209 are supermarkets or specialist stores. These figures make it easy to think that small retailers are important to the marketing processes, but in reality sales are concentrated on the big department stores (Moreno, 2002).

The online games sector with regard to PCs is small but consolidated, despite the shortfalls consumers face in terms of technological infrastructure (especially when they want to connect online), due to limits on Internet broadband. Consultancy firm DFC Intelligence says there are currently close to 50 million users playing on the web around the world. In the same study, the company said it anticipates this figure will climb to 114 million by 2006, of which only 26 million will use game consoles.

With regard to the production of video games, we can mention the activity of Spanish firm Dinamic Multimedia with its ambitious online multi-player project La Prisión , which won 14,000 subscribers. However, despite this success, the company failed to consolidate its position on the market and went into receivership in September 2001, passing its rights on to the company Cryonetworks. The sales strategy for this type of product consists of acquiring a CD in a specialist store or over the Internet and paying a monthly subscription fee of around 12 euros.

These figures, although important with regard to the Spanish market, fade into insignificance compared to the 400,000 users of Sony's EverQuest, who pay $13 per month to take to the wheel in this role game, or the four million subscribers to one of the star products in the field of role games set in medieval times, Lineage, from the company NCSoft. Many projects are currently halted due to network limitations that are unable to provide fluid connections for multi-user virtual-reality games.

The number of online players in Spain stood at 360,000 in February 2002 and accounted for 8% of Spanish Internet users. The sector audience exceeded a million different visitors per month, according to NetValue. The most popular Spanish video game websites are Oniric (175,000 visitors), Meristation (157,000), Hastajuego.com (109,000), EA.com (84,000) and Trudoteca.com (64,000). The original strategy of these portals was to create customer loyalty by offering some game titles for free, but this trend has changed and most portals now charge for their services. This model is followed by Hastajuego.com, which charges around 1 euro per day's access, with the possibility of buying packages for a number of days, weekends, months or quarters. The customer-loyalty strategy is used by Terra, a subsidiary of Telefónica, which since late 2001 has only provided access to its video games section to users who have contracted the company's ADSL service.

In Spain, video game sales climbed from 170 million euros in 1998 to 290 million euros in 1999 and then dipped to 268 million euros in 2000. Although the total volume fell, CD sales grew slightly. The turnover in Spain in the video game sector stood at 710 million euros in 2002, up 22% over the previous year, according to figures from ADESE. 80% of players continue to prefer game consoles and the most popular areas are action games (29.7%), adventures (22.5%) and motor games (14.9%). PC owners also earmark part of their budget for acquiring software to video games, with three out of every four units sold in 2002 being a video game. 40.3% of the CD-ROMS sold were strategy games.

The sector in Spain is fairly fragmented, as a few (11) companies represent 80% of the market. One Madrid-based firm, Pyro Studios, managed to propel its PC game, Praetorians, to the top of the Spanish market, according to GFK, which supplies data upon request to ADESE. In the first week of March 2003, this video game also became one of the top sellers in Germany. However, this result is still an exception among the Spanish and Catalan markets as a whole.

The video game industry is looking impatiently towards the evolution of the Internet and broadband, which could mean an important development in this sector and usher in a different panorama to the situation of the last decade. The data relating to availability of Internet access in Spanish homes confirms the move to the web for many work and leisure activities. The latest survey from the Telecommunications Market Commission (CMT) and the National Statistics Institute (INE) (5) in 2002 found that 17% of Spanish homes enjoyed Internet access, representing 63% of homes with adult Internet users (16 years or more). By autonomous communities, Madrid topped the list with a total of 26% of homes connected, followed by Catalonia with 24% and the Basque Country with 22%. Internet use was related to implementation and the Community of Madrid had the highest penetration rate in the use of the Internet with 29.1%, followed by Catalonia with 23.2% and the Basque Country with 22.7%.

The Internet and mobile phones: a change of course

The development of the Internet in Europe made it possible to move a significant part of the activities exercised on offline platforms to online ones. New hybrid systems appeared during this transitional process, in the expectation of increased Internet efficiency. Some products combined the two strategies in order to take advantage of the strength of physical supports like CD-ROMs and DVDs and the possibility of permanent updates on the Internet. This suitable use in origin was quickly taken over by the omnipresence of the Net. Moving part of offline production to an online platform has been done many times without this intermediary step.

The rapid growth of networks contributed to the migration of activities to online environments. In Spain, the number of Internet users shot up from around 250,000 people in 1996 to almost 8 million by 2003, according to figures from the EGM, representing a penetration of around 20% of the population. Another indicator is the percentage of Spanish homes with Internet access: NetValue put the figure at 29% in July 2002. In the case of Catalonia, always at the forefront with regard to cultural leisure equipment in homes, the figures from a survey on cultural consumption and practices in Catalonia by the Generalitat of Catalonia's Department of Culture in 2001 found that 55% of homes had computers, 19.3% had CDs or CD-ROM readers, 9.9% had a DVD and 32.9% were connected to the Internet.

An average of 3.9% of Spanish homes have broadband connections, according to the previously mentioned CMT/INE 2002 survey. The Community of Madrid topped the table, with 6.8%, followed by the Balearic Islands (5.7%), Asturias (5.2%) and Valencia and the Canary Islands (5% each). Catalonia, in sixth place, came in exactly on the Spanish average, with a 3.9% penetration. The data on ADSL gave a figure for the autonomous communities of Madrid and Catalonia of more than 2%, with the other communities below this figure.

On the other hand, the implementation of the mobile telephone among the population has been a surprise even for the telecommunication companies, who have seen their most favourable forecasts exceeded. The number of users at the end of 2002 was over 32 million. This has led well-known companies like Planeta to plan products for different platforms and accessories (WAP or PDAs) through its GeoPlaneta division with tourist and leisure content. Today, this activity represents a very small volume of overall corporate activity, but it suggests the need to consider all technological novelties in the area of distribution. It also points to companies' concerns for taking advantage of available content and packaging it in different formats to try to sell it on the various platforms available. Many questions surround the status that wireless communications will have, due to begin with third-generation UMTS telephones.

In today's globalised world, another important variable comes into play, and that is language. Use and knowledge of a particular language facilitates the interaction process in virtual environments. Languages therefore take on a special importance, and a new cultural dimension which permits access to large volumes of information to audiences not limited by any geographical or economic location, but which need a large enough market volume to guarantee profit expectations.

The most recent figures on the use of languages on the Internet suggest that English is by far and away the most commonly used. 51% of products are in English, followed by Chinese (13%), Japanese (12%) and Spanish and German (9% each). These figures should be compared with the figures on the mother tongue of Internet users, which in the case of Spanish is around 41 million people. This figure puts the Spanish language in fourth place, after English, Chinese and Japanese (Figures from Global Research, March 2002). In this context, Catalan faces enormous difficulties for extending beyond its geographic borders.

We have referred to the use of languages on the Internet, and now we will look at technological development, as the technological evolution has consolidated the Internet as the principle multimedia support. Among other improvements, we could mention real-time audio and video transmission using *streaming technology*, which has opened up new possibilities to multimedia creators. New agents could operate on the web without the earlier limitations and become specialist content suppliers. There is a great presence of public and private players and the amount of content is growing, but it is important to ensure quality production in Catalan to allow the most appropriate transfer of the content and know-how necessary for future generations.

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Notes

1. This support was first introduced in the publishing industry during the 1985 Frankfurt Book Fair.

2. The most important companies in the sector include Electronic Arts, Interplay, Infogrames, Strategic Simulations, Virgin Interactive Entertainment, Sierra, Activision, MicroProse, Mindscape and Microsoft, all foreign companies.

3. Dynamic was established in the 1980s at the initiative of the Ruiz brothers. Its products include Game Over, Phantis, Army Moves and, more recently, Runaway, Resurrection, Euro League Football, The Moon Project, La Prisión and PC Atletismo.

4. This was the first online multi-player game developed in Spain. It was launched on the market in late 2000.

5. Spanish homes survey on information and communication technologies. Preliminary report. December 2002.