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A multi-channel and multi-service television platform: the case of BSkyB

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This paper explores the television market under an economic point of view and analyses the main features of digital television and television companies. Digitalisation has transformed the way to watch television and also the way in which television industry works. In our view, a fourth type of television company has emerged: digital television; its main feature being that it doesn't supply only programs but also services. Therefore, we can speak of "a multi-channel and multi-service television platform".

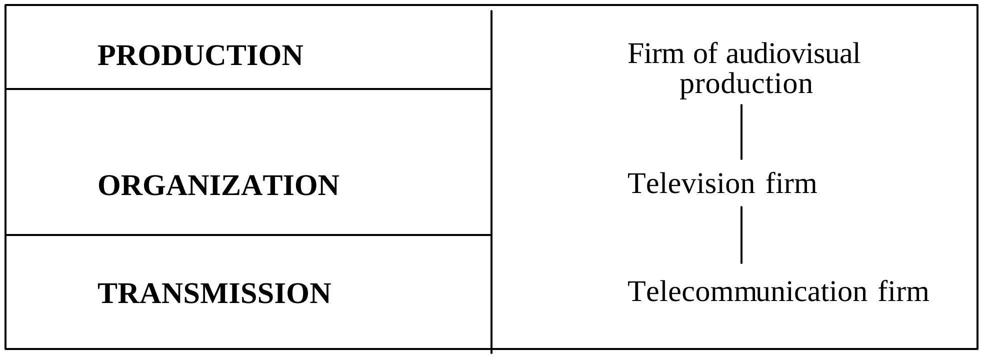
To better illustrate these changes, we consider the case of BSkyB representing the benchmark for multi-channel and multi-service television platforms at European level.

1. What's a television company?

Television has changed considerably over last few years. The multi-channel supply of television platforms, the digital technology applications and the liberalization of the television industry have radically transformed television and its products. New figures, new sources of income for television companies and new market strategies have appeared during this transformation process.
This paper explores television from an economic point of view. It purports to analyze the characteristics of a television company, its products, resources and value chain as influenced by digitisation. To better illustrate all these changes, we have considered the case of BSkyB, which represents nowadays the economic benchmark of multi-channel and multi-service digital television platforms. The field of this research is limited to a European level.

The product or service that a company supplies allows us to see each company as belonging to a specific sector marked by distinctive structures and economic logic. From an economic perspective, the appropriate concept of the television product is the scheduling and its constituents (i.e. essentially the programs). The television company's activity consists in the creation of scheduling, in a sequential disposition of programs with a specific duration, in allotting time slots, all this according to a specific logic and order. With regard to these elements, each company must choose the length of the transmission, the type and the frequency of program to broadcast, the broadcasting time and the sequence structure. The television company is the institutional and economic agent that organizes the forms, times and places of the scheduling, chooses the viewers and determines the scheduling composition.
The task of the television company, i.e. to plan the scheduling and the supply to the viewers, implies two others related functions (see figure 1): the first one consists in the production (or acquisition) of programs that are then organized in the scheduling; the second one consists in the transmission of the television signal corresponding to the scheduling in a specific area.

Figure 1: Functions of a television company



The cycle of production of the television supply, that is all the phases of economic transformation that have to be realized so that viewers can receive the final product, implies, apart from the possibility of integration, which will be explored later, three distinct functions often performed by specific operators: the audiovisual program producer, the television company and telecommunications company.

If we take the television company as reference, the first one represents the programs supplier; the second one the scheduling producer through the sequential composition of programs and the third one represents the distributor of the final product. Distinguishing between the three economic functions allows to understand the relationships and the internal logic of television industry. Nowadays, there are different cases in which these functions, partly at least, are carried out simultaneously by the same company. As a matter of fact, vertical integration[1] allows operators of a specific productive cycle phase to expand their activity to a previous phase (backward integration) or to a following one (forward integration).

Therefore, the scheduling is composed of a coordinated sequence, according to a specific logic, made up of distinctive units represented by different audiovisual programs. As previously illustrated carrying out of television activity, strictly speaking, requires the availability of programs and presupposes the existence of a backward activity represented by the audiovisual production[2].
The television company must decide if it is better to acquire or to produce the programs making up the scheduling.

Depending on the width and depth of program range, it is possible identify three scheduling typologies:

a) generalist, which has a broad availability of programs that satisfies the needs of an extensive and heterogeneous audience;
b) thematic, focused only on specific programs and aimed at a heterogeneous audience;
c) segmented, addressed to an homogeneous public in terms of, for example, age, race or sex[3].

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[1] According to Humphreys (1996, p. 202) vertical integration "[..] secured access to production resources and distribution networks; and it kept transactions and profits within the same business".
[2] Audiovisual production consists of shot of real and fictional events aimed at the cinema and the television, through two different techniques: the cinematographic and the televisual. By **television production** we mean the programs made which are destined for the television. These can be divided into two categories: fiction and non-fiction.
[3] According to Nizzoli (2002), a thematic supply differs from a generalist supply on the supply side, because programs are chosen in terms of issue, while a segmented supply differs from the generalist supply on the demand side: programs are chosen on the user basis.

Another aspect that marks out television companies is the source of funding. The three funding sources are:

- licence fees and state funding
- advertising
- subscription

This funding is provided by as many subjects as there are buyers/clients of the product (the state, the industries, the families).

It is worth noting that in Europe a matching between the sources of funding and the television business models doesn't exist. Whilst public funding and subscriptions identify a univocal correspondence, respectively with the public broadcaster and the pay-TV, advertising is a source of common funding, although in different measure, to all typologies: for commercial broadcasters it represents, in fact, the only source of funding; for public broadcasters it represents less than a third of the income and for pay-TV it represents a minority share.

In the 80s, the two main phases through which the television activities adapted to market logic appeared. The first phase is that of television firms oriented to the exploitation of advertising (commercial broadcasters and, albeit to a lesser extent, public broadcasters); the second phase is that of pay-TV, based on the subscription that each viewer has to pay to watch the programs.
The first phase, also called "of broadcasting", is characterized by a company that supplies a flow of program to a undifferentiated public in according with its mission. In particular, the economic aims of commercial broadcasters are reached through two subsequent different exchanges: the first one, of a non-economic nature, consists in supplying the viewer a flow of programs in return for their attention or at least their presence in front of television; the second one consists in selling the viewer attention to advertisers. Even the licence fee, collected by public broadcasters, is not actually included in the direct economic change, since it is more similar to a public tax; in no way can the licence fee be considered as the price paid for the consumption of public television.
The second phase, called "of video service", is characterized by companies supplying thematic programs and products, for specific audience, programs that can be watched only after the payment of a subscription. This phase constitutes an exchange relationship between those who supply and those who request programs.
The supply, thereafter, must satisfy the demand to optimize its income, and not to obtain higher ratings. In pay-TV the scheduling logic changes and, in pay-per-view, it is inclined to disappear[4]. You have to pay a subscription to reach a specific type of program. In this case what is important is the weekly or fortnightly scheduling that must, on the one hand, supply new programs and, on the other, propose the same program again in different time slots so that each subscriber can watch it depending on their own time planning (in this case we speak of "time-shifting[5]).

A combination of the two market dimensions, in terms of consumers/type of scheduling and buyer/type of sources of funding, is possible - according to different authors[6]. This results in a diagram highlighting the characteristic of the different television companies.

Table 1: Types of television company

SCHEDULING	SOURCES OF FUNDING		
	licence fee	**advertising**	**subscription**
generalist	public broadcaster	commercial broadcaster	
thematic			
			pay-Tv
segmented			

4
5
re
6

Television supply can also be related to three different business model, corresponding to the type of television company:

a) of public service;
b) commercial;
c) pay-TV.

2. Digital television

Convergence has been developing over the last decade[7]. Convergence has been described as the "ability of different network platforms to carry out essentially similar kinds of services" or also (in my point of view, rather incorrectly) "the coming together of consumer devices such as the telephone, television and personal computer" (European Commission, 1997, p. 1). Convergence, in particular, had involved, and still involves, the telecommunications, media and information technology sectors. The maximum degree of technological convergence between telecommunications, media and information technology sectors with all potential consequences at economic level, is found in multimedia and interactive applications that are at the heart of the new television that is digital television.
In an increasingly larger and more strictly interdependent framework, the development of television has been characterized by a trend towards integration with the other sectors of *Information Communication Technology* (ITC).

What is digital television? According to Richard Parker it is "about more than clearer pictures and better sound; it's about the eventual convergence of television, telephony, the Internet and the PC into a single box, with a promise of extraordinary access to all kinds of information and interactive communication unimaginable [...]" (Parker, 1999, p. 199). According to the Federal Communications Commission digital television is "a new type of broadcasting technology that will transform television as we now know it. Digital television technology will allow broadcasters to supply television with movie-quality picture and CD-quality sound, along with a variety of other enhancements. It can also be used to transmit large amounts of other data into the home, which may be accessible by using your computer or television set". Already by these definitions we can gather that digital television will bring many advantages to the public.

From the supply side, digital television, compared with analogue television, creates four different opportunities:

1. the technical multiplication of television channels for the same transmission resources used. This means, for example, that a satellite able to transmit 16 different analogue television programmes can be used to transmit around 80-100 digital programmes with the same definition or that the infrastructures needed to broadcast a terrestrial television channel can transmit around 5-6 digital programs. The advantage is therefore double: on the one hand, transmission costs decrease to a fifth or a sixth, but the same multiplication is valid for end-users/reception devices. More channels availability can be used to supply more traditional programs; to supply the same programs in different time slots to make more flexible accessing (as for example in the case of re-transmission in different days and/or time); to broadcast live an attractive program only to the subscribers who want to watch it (pay per view);

[7] The term "convergence" was used for the first time by the scientist Johannes Kepler in a study about optics. For a brief history of the term refer to Nunberg (1999, pp. 201-203).

2. the growth in technical quality of audio and video transmission, because digitalization reduces distortions;
3. the opportunity to interconnect the television set to the telephone line to transform the television set into an access device to the services linked to Internet and to develop access to interactive services;
4. the possibility to make television interactive: it is useful to distinguish between enhanced broadcasting and interactive television[8]. Enhanced broadcasting, considered as "enhancements of both text and graphic, broadcast in combination with some specific television content, i.e. integrated with them, which are optional and may be visualised in specific portions of the screen" (Bogi, 2002, p.139), is characterized by:

- the 16:9 image format, specially appropriate to broadcast film and sport events;
- the audio with a CD (*Compact Disk*) quality and the possibility of having more audio channels for a multilingual program;
- the EPG (Electronic Programme Guide) supplying information about the showing updated in real time and about programs of the weekly scheduling, or giving added news about films and events that one may wish to watch. In the more updated versions, this takes the form of a videoportal;
- the communications services, as t-mail. The user can write, send and receive an e-mail on his own television set and also send SMS. In this way digital television (especially terrestrial) can create a direct relationship with its own clients.

Digital television encourages the viewer to participate. If we consider the example of enhanced TV on Sky digital, the digital supply of the English operator BSkyB, we can observe that while we are watching, for example, a culinary transmission, we can interact with the program and reach supplementary information. Instead, in the case of Big Brother we can participate to the show by televoting for a protagonist or choosing personally some framing. Enhanced broadcasting allows, in addition, the use of side channels, sometimes referred to as "non linear" channels. A side channel allows the consumers to view a programme or access a service that is directly related to the programme they are currently watching[9].

The definition of "interactive television" is not unequivocal. The term "interactivity" denotes the possibility that the subjects of a communication interact with each other. Technically speaking, interactivity implies a return channel from the user to the information source that can transmit in the form of "bits" of data the choices and the reaction of the user (input). As a rule, we can distinguish between symmetric interactivity and asymmetric interactivity: in symmetric interactive systems the flow of information is transmitted equally in both directions, as for example in videoconference and chat; in asymmetric interactive systems, the flow of information is preponderant in the direction sender-receiver, as for example television services on demand and databank consultation.

Continuing product growth creates difficulties in providing a unequivocal definition of interactive services. If, for example according to Bogi (2002), we take as point of view the content of interactive services and the effective two-way use of them, it is possible to hypothesise the following distinction:

- informative services, namely applications that allows access to data, statistics and added information linked to the content of a specific program or television channel;
- interactive services strictly speaking, that include a broad and diversified range of services: quiz and voting applications through television (that allow response, generally to multiple-choice questions and participation in a research), betting (which is very widespread) and other applications that supply services and functionalities typical of Internet, but also available through the television set (as for example the e-mail), the advertising and interactive games.

[8] If we refer to the different means of integration between video and date and to the user's capacity to modify the transmitted content, then enhanced television is a subclass of interactive television.
[9] According to Chan-Olmsted & Kang (2003), enhanced tv supplies a hybrid content composed of information, gaming, music, film and advertising.

Not unlike informative services, interactive services are linked to the “linear programming” and aim to increase appeal and attractiveness through interaction with the user;

- transitive services, that permit commercial transactions via the television set.

As a result, if we use the classification proposed by Bogi, informative and interactive service, strictly speaking, come under enhanced broadcasting, while transitive/transactional services come under the interactive television.

Therefore, we can say that the television industry is now progressively opening to new services and operators. Although still at the heart of the television consumption, traditional broadcasting is now at a mature state, while significant opportunities for expansion seem to be offered by a more targeted and accommodating range of services. They are new services that differ from traditional television in transmission form and in content supply, selection and consumption. Often these services need a combination of know how that does not belong to television sector, but to other sectors, like the telecommunication and information technology sectors. To benefit from the services supplied by digital television, the viewer must be equipped with a new terminal, called “multimedia home platform” (MHP) that allows access to this broad range of services.

3. The multi-channel and multi-service television platform

According to Chalaby and Segell (1999), digitalization transforms not only the way to watch as well as to use television, but also the way in which television industry works. Along with digital television a fourth type of television company appears (that differs from the other three “traditional” television companies – public broadcasters, commercial broadcasters and pay-TV). The main feature of this new company is that it does not only supply programs, but also services. Thus, we can speak of “multi-channel and multi-service television platforms”. This type of company operates through networks which are able to supply a number of television channels, as cable networks, satellite and terrestrial digital television. Each channel supplies a thematic (i.e. focused on a specific subject) and segmented (i.e. addressed to a homogeneous public in terms of, for example, age, race or sex) programming.
The main categories of channels can be divided to:

- programs based on low cost contents addressed to a target audience (for example, minor sport);
- programs based on high cost contents (for example, recent films, successful sport events).

Like the pay-TV supply and going beyond a mono-channel supply, the multi-channel and multi-service television platform supply is organized in packages, with different price of subscriptions depending on the marketing strategies used by the operators. The structure of the digital bouquets is generally as follows:

- a basic subscription (thematic) that has to be paid by every user and allows access to a various range of low cost channels;
- subscriptions (premium) to one or more high cost channels as recent films and sport events.

Its supply is characterized by:

- diffusive services (it means television programs);
- interactive services.

With reference to diffusive services, the supply can be divided to:

- channels with a basic subscription;
- channels with a premium subscription;
- pay per view channels;
- near video on demand channels.

Basic channels are characterized by a monothematic supply (for example, music, sport, kids, adventure etc.) that can satisfy the needs and desires of different targets. Despite none of these

channels being aimed at the mass market, the whole of the supply can attract a broad audience that allows increase in subscribers' base.
The restricted price of the content (up to 20 times less than the price of premium channels) makes it profitable and enlarges this type of supply.

Premium channels, instead, supply more programs focalized on attractive and successful contents. More specifically, the content of these channels is represented by recent and successful films and sports preferred by the different national audiences. But premium events are by definition restricted, because their costs and rights are very high.
The main genres of premium channels are also supplied by pay per view channels. This is a form of payment to consumption, linked to a single event or service directly requested by the user. The pay per view channels programming is often completed by concerts or theatrics' events.

Finally, the near video on demand channels complete the supply of diffusive services. The near video on demand, that is the re-transmission of the same programs on different channels at determined times, allows the viewers to watch a film when they want.

Pay per view and near video on demand services represent the first service which has been greatly strengthened by the introduction of digital technology, in addition to a successful driving force of the whole supply, that allows viewers to have successful programs (cinema and sport) payable depending on consumption and usable at a differentiated time.

As previously observed, a multi-channel and multi-service television platform supply is composed not only of television programs (that is of diffusive services), but also of interactive services.
It is useful in this regard to remember the distinction between interactive services linked to the programming (enhanced TV), which allow the viewers to receive information (through the electronic programme guide) on the real time and weekly programming as well as to choose the different angles of sport events or televote, and the interactive services which are independent from the television programming (the so called transitive services, like t-commerce) that allow to shop, play, bet and administrate the own finance.

The interactive services supply is organized in a virtual environment called "walled garden". It's a separated area (it looks like a internet portal), which is only accessible by the subscribers, where there are contents and interactive services often provided by third parties.
By pressing a button of the decoder remote control it is possible to access to the portal: the home page in which are organized the services not linked to the television programs appears then on the screen.
In this way a multi-channel and multi-service television platform controls the user and underlines the role of television as aggregation and sorting point of an always controlled supply.

The most profitable diffusive services are premium channels that supply exclusive contents (sport and film).
With reference to interactive services the more remunerative are:

- the electronic program guide;
- interaction with programs' contents (voting, betting, etc.);
- videogames and betting;
- interactive advertising;
- t-commerce, t-banking etc.

If we take the source of funding as reference, besides traditional funding sources linked to diffusive services, a multi-channel and multi-service television platform can rely on:
- interactive advertising;
- revenue sharing in t-commerce transactions;
- the fee paid by the providers of interactive services to be inside the walled garden;

- premium rate telephone charges in connection with viewers' usage of interactive services: in fact, when the viewer uses an interactive services, for example he votes a protagonist of a reality show, he must pay the cost of the telephone call, whose amount is shared between the telephone company and the multi-channel and multi-service television platform;
- the commercialization of viewers' dates. For example, when a multi-channel and multi-service television platform transmits an interactive advertising, it can sell to the company that promotes its product the dates of the viewers that are used the service and receive in exchange for a specific amount for each contact.

Generally, we can say that, in order to be economically successful, i.e. to be as profitable as possible, a multi-channel and multi-service television platform must:

- retain customers, that is reduce the number of subscribers that every year rescind the subscription (churn) by adopting an efficient customer relationship management system as well as supplying a various and attractive supply;
- increase the subscribers' number, diversifying the supplied services and increasing marketing activities;
- increase the average revenue per user (ARPU);
- increase the number of content/services providers in the *walled garden*;
- increase the interactive services provided by third parties (revenue sharing in transactions and rate telephone charges).

Convergence – as shown at the beginning of this article – creates changes in the television sector. Consequently, the television industry has to try to adapt to the new scenario, partly modifying its value chain and its business model. To better understand who the new operators involved in the development of the fourth television business model - multi-channel and multi-service television platform - are, it is useful to illustrate the detailed representation of the value chain[10] proposed by Andersen Consulting (2002, p. 60). It can be schematized as follows:

Figure 2: The value chain of "a multi-channel and multi-service television platform"

As illustrated in the figure above, the value chain can be divided to three categories - content, packaging and diffusion - in each of which different operators are active.

The first category (content) relates to the content production and distribution: it groups the rights holders, the content producers and the rights dealers.

The rights holders, the source of content rights, often have agreements with a few corporations that manage and commercially use the rights and that sometimes also play the role of rights dealers. Examples of rights holders are the majors like Sony, Universal and Time Warner, but also some broadcasting companies holding rights.

The content producers have responsibility for audiovisual production by combining artistic, financial and commercial know-how. They can produce content or be only responsible for the creation of the formats. Examples of content producers are Endemol, Freemantle Media etc. Particularly, in this phase of the value chain, digitalization reduces the costs (operational costs and capital expenditure) and needs specific skills. It reduces or keeps unchanged the entry barriers (which in turn increase the

[10] According to Chan-Olmsted & Kang (2003), the concept of value chain is closely related to the issue of business model, because the former scrutinizes the value added to a product or service in each stage of its acquisition, transformation, management, marketing and sales, and distribution. In essence, value chain represent a systematic approach to analyzing an industry by segmenting its market activities that add different values to the final product.

number of operators and the consolidation of main operators), creates a bigger fragmentation and increases the ceiling of economy. At last, but not at least, digitalization consolidates the importance of interactive programming, an aspect that incites the new operators (for example the video game industry) to compete with traditional operators and to have a direct access to access provider (for example EPG). Content providers have to reckon with the substantial growth in costs of television rights, particularly of premium content. This growth will make competition between broadcasters and pay-TV operators for the acquisition of the rights hard and will compel the industry to resort more and more to vertical integration (between rights holders, content producers and other stakeholders of the value chain). Content providers, ever more involved in the production of interactive contents, have to decide if they want to offer directly the services to the consumers. In this way they will partly be involved in subscription, differentiating its own business model.
The main function of right dealers, who trade content rights, is to include film or television programs from many producers in an extensive rights catalogue, facilitating the distribution of independent productions and trying to alleviate the transaction costs associated with the search and selection of rights.

The second category relates to the packaging of content and it groups the roles of programme packagers and aggregators. The first ones, responsible for the acquisition and the selection of programmes, create the scheduling through both packaging of programmes into channels and selling advertising airtime to fund this schedule. Examples of programme packagers are the broadcasters, free commercial broadcasters and pay-TV operators. Instead, aggregators are responsible for the acquisition and aggregation of individual channels into bouquets. In view of the development of new media applications, they are also working on the integration of applications and services in broadcasting. Usually the role of aggregator appears when pay-TV platforms are launched and it has therefore a purely commercial function. Aggregators are often associated with access providers[11]. As noticed by Andersen Consulting (2002, p. 87), the advent of digital television and the development of Internet have generated a new type of aggregator. "[…]the role of programme packager will radically change as the focus will change towards aggregation of content." The diffusion of new platforms and the implementation of the electronic programs will decrease the importance of scheduling and audience and will gradually change its way of watching television from a schedule-based vision to a programme-based vision.

The third category relates to the diffusion of content and it groups the roles of networks, access providers, and Customer Premises Equipment vendors.
Networks transmit data across their infrastructure and are responsible for the development, the maintenance and the operations of their transmission infrastructure. Examples of networks are telecommunication companies, cable companies, satellite carriers and terrestrial networks. While in the analogue environment, networks were solely responsible for the diffusion of content, a digital environment requires two separate roles. The network role is maintained but a new role is created: the role of the access provider. Access providers are responsible for the development of a digital platform, for billing, for customer relationship management and for the management of set top boxes. Often they are called "gateway", because they supply customer access to a range of services like Internet[12]. Sometimes access providers – this is the case of Canal Satellite and BSkyB – own their networks (like cable networks). Finally, Customer Premises Equipment (CPE) vendors are responsible for the manufacturing, selling and marketing of the end-user equipment (also called CPE)[13].

[11] A good example is MSN.
[12] The introduction, development and digitalization of new broadcasting technologies (the cable, satellite and digital terrestrial) allows the access provider to transmit more channels. This increase in bandwidth allows channels of new geographic area (channels of other countries and also American ones) to be introduced and to transmit new channels.
[13] According to some authors, such as Sigismondi (2002), the functions of the access provider and the CPE vendor are tasks of the service provider, who manages the service access (set top boxes' distribution and maintenance and software update) and controls subscriber management.

In conclusion, we can say that new digital technologies are transforming the way in which the company works and are opening up new opportunities, thereby influencing differently the value chain.

4. The BSkyB case

To better illustrate all this changes we have decided to consider BSkyB. This represents nowadays the economic benchmark of multi-channel and multi-service digital television platforms. To understand the success of its business activity, it is useful first of all to recall the main features of the industry with which it interacts.
British Sky Broadcasting Group (BSkyB) and its subsidiaries operate one of the leading pay-TV broadcasting services in United Kingdom and Ireland. BSkyB operates in the industry as channel provider, distributor of television services and DTH platform operator. It competes in the following sectors:

1. terrestrial television;
2. cable television;
3. satellite television.

BSkyB competes with these sectors to acquire the leisure time of the viewers (direct competition) and to gather information (indirect competition) in particularly rivalling the free to air channels.
According to surveys produced by Broadcasters Audience Research Board (BARB) on March 31, 2003, which relate to both cable and estimated digital terrestrial homes, at least one or more of Sky's channels are now distributed to 12 million homes in the UK and Ireland. For the year ended on June 30, 2003 the digital penetration covers around 43% of homes, which makes the United Kingdom the leader in digital television diffusion. Furthermore, it is estimated that more than 6 millions homes in United Kingdom and Ireland receive the BSkyB's supply through digital satellite and that more than 3,5 millions homes receive the Sky channels via cable. In the United Kingdom and Ireland there are around 25 millions homes with a television set, 12 million of which pay to receive a multi-channel supply. As multi-channel penetration continue to rise, the viewing share of Sky channels across all UK television homes has been grown to 6,4% by the end of the year 2003 compared to 6,1% in the previous year.

Regarding free to air broadcasting in the United Kingdom, BSkyB competes at various levels (programming and distribution) with the five traditionally analogue terrestrial channels (BBC1, BBC2[14], ITV1[15], Channel 4 e "five"[16]), which are now available via digital direct to home (DTH), cable and digital terrestrial television (DTT), and, in the case of DTH and DTT, on a free to air basis[17]. The company competes with these channels for the acquisition of programming and viewers and with ITV1, Channel 4 e "five" for advertising sales. Regarding digital transmission and the distribution of set top box, BSkyB competes with other operators, such as Pace Micro Technology which supplies a decoder for integration with the analogue television set. In this way, the viewer can have access to free channels through digital terrestrial television[18].

The main cable operators, NTL and Telewest, are, instead, the main competitors for the acquisition of programs rights. For example, NTL competes directly with BSkyB for the acquisition of the Premier League rights. Obviously the competition with other channel providers or programming providers (including cable operators) may, from time to time, increase BSkyB programming costs.

In satellite broadcasting BSkyB is the leader.

[14] BBC1 e BBC2 are funded by a licence fee paid by all the British families and don't sell advertising.
[15] ITV1 (Channel 3) is divided into a number of geographic and temporal licences managed by different broadcasters.
[16] Channel 4 and "five" are mainly funded by advertising and the sale of programs to other broadcasters.
[17] Each of these five channels supplies a generalist programming of entertainment, sport, film etc.
[18] Since this date, a number of manufacturers, like Grundig, Nokia, Panasonic e Pioneer, has launched similar set top boxes.

Since it operates in a very competitive industry, subject to rapid changes, BSkyB must always invest adequately to maintain its position as leader, which allows it to exploit this leadership in terms of growth of subscribers and reduction of content costs. The ability to compete successfully will depend on its ability to acquire commission and produce programming content, as well as to package it attractively and supply it to its customers at competitive prices.
Furthermore, United Kingdom holds different records (at December 2003):

a. is the top country in digital television penetration (43%);
b. owns Sky digital, the operator with the highest growth of subscribers;
c. it is the first country in the world that transmits digital services through the three different platforms (cable, satellite and terrestrial);
d. it is also the first country that launched a platform dedicated to transitive services (Open Interactive, now Sky Active).

According to Preta (2002, p. 109), all this is possible thanks to the broad diffusion of pay television, to the lack of attractivity of the free to air supply and the merger of the two satellite operators Sky and BSB generating a unique operator (BSkyB) monopolist of the pay satellite supply[19].

Recently created from the merger of the two competitors, BSkyB is a public company owned by Sky Global Network, a News Corporation holding (37%), by Deutsche Bank (22%) and by pension funds, insurance societies and individual shareholders (41%). Its history can be divided into two main phases:

- the phase of analogue supply that went from 5 channels in the year 1991 (Sky One, Sky News, Sky Movies, The Movie Channels and Sky Sports) to 25 in year 1995;
- the phase of digital supply, Sky digital, beginning with 140 channels in the year 1998 and achieving more than 390 channels in December 2003.

Currently, after many years of having registered closing balances with a loss, BSkyB obtained – as we will show better later – the first positive results in the year 2002.

4.1. BSkyB's supply

The strategy of BSkyB is to create an "added value by maintaining and extending […] (its) position as Britain's leading digital TV platform and multi-channel content provider"[20]. BSkyB especially invests – as shown afterwards – in programming, considered very important to generate subscriptions and foster viewers' loyalty. The aim of the company is to supply a reasonable ever improving, broad range of programs, and BSkyB is a multi-channel and multi-service television platform, whose supply is, in fact, composed by programs and services. In particular, it is composed of:

a. basic channels (around 80);
b. premium channels (around 29);
c. pay per view channels (over 85);
d. near video on demand channels (around 60);
e. free channels (around 160).

The main successful Sky Basic Channels are: Sky One, Sky News, Sky Sports News, Sky Travel and Sky Travel Extra.

Referring to cinema, the most successful premium channels supplied by BSkyB are Sky Movies 1, Sky Movies 2 and Sky Cinema, and regarding sport, the most successful premium channels are Sky Sports 1, Sky Sports 2 followed by Sky Sports 3 and Sky Sports Xtra.

[19] According to Pugliese (2003), the digital pay TV success, as illustrated by BSkyB, must be based on a high market concentration. The competition between platforms seems not to bring advantages, but rather to dissuade the audience to become pay TV subscriber.
[20] See Sky (2001).

Examples of premium channels are FilmFour, supplying 120 different films every month and MUTV[21], a channel dedicated to Manchester United Football Club. Concerts supplied by Music Choice complete the programming of pay per view channels.

The near video on demand channels that allow the viewers to watch a film when they want, offer around 62 first release films. For example, BSkyB is currently showing Spiderman and Minority Report among others.

Last, but not at least, the BSkyB platform supplies more than eighty **free channels** of news, music, sport, adventure etc. (for example, the channels of BBC - BBC 1, BBC 2, BBC Choice, BBC News 24, BBC Parliament -, Channel 5 e ITV, TV Travel Shop, Ideal World etc.).

As previously observed, the BSkyB supply – typical of digital television - is composed not only of programs, but also of interactive services, linked to the programming (enhanced TV), which allow the viewers to send e-mail, choose the different angles, televote, memorize the channel they prefer, and of t-commerce services, which allow you to shop, play, bet and administrate your own finance.
All these services, managed by Sky Interactive Limited[22], are organized in 4 interactive stand alone portals on the digital satellite platforms, organized in a "walled garden":

1. Sky Active, the principal interactive services portal[23], supplying services, like gaming, betting, acquiring a car, winning a ticket for a concert and so on, that are partly supplied free of charge (it means that the user only pays the telephone rate charge) to all digital satellite viewers and the customer's telephone line is the return path for these interactive services via a modem in the set top box;
2. Sky Winzone, focused on gaming and betting, allows the viewers/users to win money, betting on horses, on football teams etc. Similar services are supplied by Sky Bet, which allows you in particular to bet whilst watching for example a football match. It is estimated that Sky Bet currently reaches around 100000 subscription and around 65000 bets weekly;
3. Sky Buy is the portal assigned only to shopping; it is possible to order a pizza, buy jewels, foods and also a car;
4. Sky Gamestar supplies only games. It supplies more than 25 traditional games like Tetris and Pacman and some expressly realized for Sky, like Tomb Raider. It is estimated that BSkyB transmit every year more than 300 life games. The Sky Gamestar subscribers, thanks to the new wireless Sky Gamepad (a sort of new generation joystick), can at the same time challenge many rivals at a price that varies from 15 to 30 pounds.

According to Jon Florsheim (2002), chief executive officer of Sky Interactive Limited, BSkyB decided to bet more on enhanced TV than on transitive services, because it allows you to:

a. generate revenues;
b. improve the supply;
c. retain customers to a specific channel or to the platform, reducing the churn.

Actually BSkyB doesn't give information about interactive services, but we can comment on the most important cases. It is useful to remember the success of Big Brother, which in the first six weeks of

[21] In September 1997 BSkyB has acquired an equity interest in the venture operating the Manchester United Channel. This channel was launched on the 10th September 1998. BSkyB supplies MUTV only to à la carte DTH subscribers.
[22] Sky Interactive Limited, a subsidiary of BSkyB, delivers digitally transmitted interactive services to viewers in the United Kingdom. Since 9 May 2001 the interactive platform now managed by Sky Interactive was managed by the joint venture, BiB, owned by BSkyB (32,5%), BT Holdings Limited (32,5%), HSBC Holdings Plc (20%) and Matsushita Electric Europe Limited (15%). On 9 May 2001 BSkyB acquired the quotes of HSBC and Matsushita and on 28 June of the same year also acquired the quotes of BT.
[23] This was created through the acquisition of Open Interactive, the interactive e-commerce platform launched at the end 1999, by British Telecom and others.

the third edition achieved 5 million votes and the fact that in the year 2002 BSkyB earned a dozen million euros from betting via telephone, Internet and interactive television.
In 2002 (the latest data available) there has been a big growth in interactive advertising: the number of advertising campaigns has moved from 12 in the second quarter of year 2001 to 50 in the year 2002. And if we consider, for example the Rimmel campaign, where by answering a question it was possible to win a lipstick, we can see that 52.300 were the total number of contact (note that it was necessary to limit the answers because only 55.000 lipsticks were available), 64% of which agreed to give their personal data. It is important to remember that for each contact, Sky earned 40 pence.
Another example is the Chelsea Building Society advertisement. The banner was clicked 6560 times in 100 days and 1550 of these contacts resulted in some millions of pounds of loans.

Normally interactive services represent an important source of funding for the company. The main revenues derive from:

(1) premium rate telephone charges in connection with viewers' usage of its service;
(2) revenue sharing in t-commerce transactions completed on the platform;
(3) advertising;
(4) tenancy and technology fees charged to content providers that supply services on the platform.

Indeed, third parties like BBC, Channel 4, Flextech, Discovery, MTV, Disney, are launching interactive services on the digital satellite platform. In this case, the viewer wanting to use an interactive service must pay the telephone call rate, a part of which is given to the phone company and the other part to BSkyB. The service provider, instead, must pay a fee to appear on the Sky platform.

From a commercial point of view, television programs and interactive services are supplied in multi-channel packages that include all the pay thematic and specialized channels satisfying the broad range of interests. We can see in real terms that the supply of a multi-channel and multi-service television platform is organized in different packages. Actually, Sky has 96 different packages that are defined on the basis of the users' profile (Family, Popular Mix, Knowledge, Kids/Music, Lifestyle and Value). Their monthly price ranges from 12,50 pounds (18 euro) to 38 pounds (55 euro). The following table illustrates the supply.

The Sky digital DTH subscribers can choose from packages of basic channels ranging from 7 to 92 channels, called Basic Channels/Packages, or they can take out a subscription to premium packages, called Sky Premium Channels/Packages. In order to limit access to paying subscribers only, Sky Premium Channels and Sky Basic Channels (other than Sky News) are encrypted.
Moreover, BSkyB supplies a range of premium à la carte channels owned by third parties like Disney Channel (5 pounds/7 euro), Artsworld, Film Four, MUTV, Chelsea TV and Music Choice Extra (6 pounds/8,5 euro), and Star News/Star Plus (12 pounds/17 euro). To watch one of these à la carte channels[24], the viewer must take out a subscription to a premium package.

The majority of channels supplied by BSkyB doesn't belong to the company, which however maintains the control over the most attractive content: sport, cinema and news. BSkyB owns 15 channels, the Sky Channels. As a consequence BSkyB made agreements with different content/service provider, the main ones are:

- for retail: Asda, Carphone Warehouse, Domino's Piazza, GAME, Gadgetshop.com, Kittbag, WHSmith, Sky Buy, Altura, BT Shop, Littlewoods, Totopools, Racing Network;
- for betting: Blue Square, Surrey Sports, Ladbrokes;
- for travel: Going Places, Sky Travel;
- for the ticket office: First Call, Odeon;
- for finance: Abbey National, Egg TV, Halifax, HSBC, The Woolwich, Department of Works and Pensions;
- as e-mail provider: AOL, Yahoo;

[24] An à la carte channel is "a television channel which can be subscribed to on an individual basis by a DTH subscriber to one of [the) packages of basic channels" (BSkyB, 2002, p. 4).

- as information and sport event results provider: UK Phonebook, UK Ondine, UpMyStreet/Love To Meet, Yellow Pages, Job Channel, Autotrader, Koopid, Racing Network.

Table 2: BSkyB's supply

Premium Packages	**Sky Entertainment Packages**					
Premium Channels/Packages	**Family Pack**	**Popular Mix Pack**	**Knowledge Pack**	**Kids/Music Pack**	**Lifestyle Pack**	**Value Pack**
Sky World	£38	£37	£37	£37	£37	£36
Sky Movie World	£33	£32	£32	£32	£32	£31
Sky Sports World	£31	£30	£30	£30	£30	£29
Sky Sports 1 and 2 + Sky Movies 1	£34	£33	£33	£33	£33	£32
Sky Sports 1 + Sky Movies 1 + Sky Movies 2	£35	£34	£34	£34	£34	£33
Sky Sports 2 + Sky Movies 1 + Sky Movies 2	£35	£34	£34	£34	£34	£33
Sky Sports 1 and 2 + Sky Movies 2	£34	£33	£33	£33	£33	£32
Sky Sports 1 + Sky Movies 1	£32	£31	£31	£31	£31	£30
Sky Sports 2 + Sky Movies 1	£32	£31	£31	£31	£31	£30
Sky Sports 1 + Sky Movies 2	£32	£31	£31	£31	£31	£30
Sky Sports 2 + Sky Movies 2	£32	£31	£31	£31	£31	£30
Sky Movies 1 **Sky Sports 1**	£28 £27	£27 £26	£27 £26	£27 £26	£27 £26	£26 £25
Sky Sports 2	£27	£26	£26	£26	£26	£25
Sky Movies 2	£28	£27	£27	£27	£27	£26
Sky Entertainment Package	£18,50	£15,50	£15,50	£15,50	£15,50	£12,50

In conclusion, we can say that in particular BSkyB supplies information, film and sport as well as interactive services and has decided to acquire the contents but chosen to produce only some of these, particularly news (Sky News) and interactive services. From the mid-eighties, BSkyB also transmits channels of third parties. As a result, for the first time, a satellite broadcaster has diversified its business and became a packager of thematic channels, produced and realized by third parties, and transmitted on its own platform. This new function of multi-channel and multi-service television platforms makes it different when compared with analogue television companies.

4.2. The distribution

BSkyB transmits its services in three ways: via satellite, via cable and terrestrial.

A BSkyB core business is the direct to homes subscribers directly managed. BSkyB leases the majority of the transponders that it uses for digital transmission for reception by both DTH viewers and cable operators, from Société Européenne des Satellites S.A. (SES), the operator of the Astra satellites. BSkyB also leases transponders via a sub-lease on the Eurobird satellites, owned and operated by Eutelsat.

BSkyB programs and services are also transmitted via cable. The company has agreements with the main British cable operators, Ntl and Telewest, for the re-transmission of Sky channels to its subscribers. Both of these operators have launched a digital cable service across the majority of their cable systems and both carry most of the Sky Channels on cable networks, but neither of them currently carries premium channels like Sky News Active and Sky Movie Active. According to BSkyB, at September 30, 2003 there were approximately 3.800.000 UK cable subscribers to Sky programming.
The cable subscribers must take out contracts with their own local cable operators, who acquire from BSkyB the rights to transmit some Sky Channels, that are packaged with other channels produced by itself or acquired by third parties. To re-transmit Sky programming, the cable operators pay a monthly subscriber fee per channel in respect of their subscribers to, for example, the Sky Basic Channel.

Indeed, BSkyB supplies the channels – Sky News, Sky Sports News and Sky Travel – the unique channels whose rights can be transmitted also terrestrially, via the free-to-air DTT platform Freeview, created in 2002, in which BSkyB holds equity interest.

BSkyB is currently looking at possible means of distributing its service other than by DTH, cable and DTT, such as Internet and third generation cellular telephone networks (3G).

Always referring to distribution, it is interesting to observe that BSkyB has also built digital uplink facilities and has developed a digital condition access system, customer management systems, electronic program guide (SkyGuide) and navigation technology, as well as applications and online return path infrastructure to permit the supplying of interactive television programming. It has worked with a number of manufactures to develop digital satellite set-top-boxes based upon its specifications and to develop television sets containing integrated digital satellite and DTT receivers.
BSkyB has also developed a new set-top-box Sky Plus (“Sky+”), which contains two satellite tuners and an integrated personal television recorder allowing approximately 20 hours of programming to be recorded directly on to a hard disk contained within the set top box.[25]. This enables digital satellite viewers to watch one live digital satellite program while simultaneously recording another, pause live TV and automatically record some series of favourite programs. The product price is about 300 pounds, to which must be added a monthly subscription of around 10 pounds. To develop Sky Plus and the electronic program guide, BSkyB has collaborated with Gemstar, a News Corporation subsidiary, and to build the set top boxes, the main providers are instead Pace, Panasonic, Grundig, Amstrad and Sony. The smart card, used to encrypt the signal, is supplied by NDS Group plc[26], a BSkyB subsidiary leader client management systems and cognitional access technology.

4.3. Marketing and advertising

To make its products and services successful, BSkyB makes important investments in marketing. In BSkyB’s strategy the marketing is important and plays a crucial role. The aim of this strategy is that the client guides the company’s share price. The brand ambition of BSkyB is “to make every day extraordinary[27] for every one of the customers” (Sky, 2002). Using a marketing approach not “holistic”, but diversified on the basis of clients, the company tries to understand the desires and needs of different targets and to use different languages for the many channels (for example it tries to speak to the sport channels’ subscribers with the language of sport etc.). BSkyB is able to know the

[25] At June 2003, there were 105.000 subscribers to Sky+, representing an increase of 77.000 in the year.
[26] BSkyB orders NDS Group plc, a subsidiary of News Corporation, to design and develop some elements of the VideoGuard system. NDS provides the smart cards and develops a secure system again piracy.
[27] To specify the concept “extraordinary day” Sky (2002) says: “just think: a generation ago, the business that we work in didn’t even exist. The technology we deploy didn’t exist. This is all brand – new staff, and we’re right at the front of it. So let’s continue to make every day extraordinary for every one of our customers”.

profile of all DTH subscribers, but it can't currently treat them as individuals. In this way, the company is able to know who the "high value customers" are and who the "low value customers" are guaranteeing the minimum loss of resource investment.

Among the marketing activities BSkyB provides free digital satellite equipment to new customers, the installation of digibox and, most of all, qualified call centres. Once, BSkyB said in public that it didn't own call centres, but customer relationship management (CRM) centres. To be always updating on the activities and the products, BSkyB gives them a Channel Guide, which highlights the changes, the new supplies and services. The CRM centres deal with the handling of orders from subscribers, the establishment and maintenance of subscriber accounts, the invoicing and collection of revenues and telemarketing and customer services. These activities, together with a high level of customer service and familiarity with customer needs, allow the centres to play a key role, both in customer acquisition and customer retention.

BSkyB also sell advertising for all the Sky Channels and also act as the advertising representative for channels like the National Geographic Channel, Adventure One, Hallmark, the History Channel, the Biography Channel, MUTV and Chelsea TV transmitted on the platform.

4.4. Operating and financial aspects

It is now appropriate to consider some economic and financial aspects of the company to understand if its business model is successful. BSkyB has continued to consolidate its position as the leading provider of digital pay television services in the UK and Ireland. As the pay-TV business has developed in the UK, the company has continued to expand its total subscriber base, to develop new products and to obtain and develop programming.
At June 2003 the revenues were 3.186.000.000 pounds (at June 2002 were 2.776.000.000 pounds), coming from the following items (in millions of pounds):

Table 3: BSkyB's revenues

	June 2003	June 2002
DTH	2.341	1.929
Wholesale	202	279
Advertising	284	251
Interactive	218	186
Other	141	131
Total	3.186	2.776

In the last year revenues increased with a growth of 15%, driven by further strong DTH revenue growth and continued growth in advertising and interactive revenues. Sky's advertising revenue continued to outperform the market with a 13% increase, principally reflecting the benefit from strong share deals negotiated with advertising agencies for calendar year 2003, and strong growth in Sky's over all subscriber base. Instead, the decrease of wholesale revenues was due to fewer subscribers taking Sky premium channels, to a decrease in average revenue per cable subscriber[28] and the closure of the terrestrial digital platform ITV Digital.

During 2003 revenues were allocated as follows:

- 73,5% from DTH subscribers including pay per view revenues. This growth (+5%) reflects the 14% increase in the average number of DTH subscribers and an increase in the non-

[28] The total subscriber number to Sky channels has diminished by over 300 thousand units in the last year, although the Sky channels accessibility has increased in the homes linked to cable. In the same period the premium channels' penetration in the homes linked to cable has also diminished.

interactive component of ARPU, largely driven by the change to Sky's UK retail prices in January 2003, but also by the introduction of new products such as Sky+;

- 6% from wholesale in the form of payments from cable operators and up until its closure on April 30, 2002, the DTT services, ITV Digital in respect of the distribution of Sky Channels via their DTT services;
- 9% from advertising airtime on each of the Sky Channels;
- 7% from interactive services[29]. Interactive revenues include income from gaming, online advertising, internet and t-commerce. Precisely, the increase of £32 million was driven by a threefold increase over the comparable period in the total volume of bets placed to over 15 million, of which 12 million were interactive television bets;
- 4,5% from other activities like revenues from the installation of digital satellite reception equipment, conditional access fees, service call revenues, and customer management service fees. The increase is primarily due to hardware-related revenue on the sale of Sky+.

The DTH revenues are a function of the number of subscribers, the mix of services taken and the rates charged. Similarly, the wholesale revenues are a function of the number of subscribers on cable and DTT operators' platforms, the mix of services taken by those subscribers and the rates charged to third party distributors, NTL e Telewest[30]. Finally, the "other" revenues have been derived from the launch of new product like, for example, Sky+.

As to the costs, in year 2003 operating costs before goodwill[31] and exceptional items[32] increased by 9% to £2.815 millions. These operating expenses were from the following items (in millions of pounds):

Table 4: BSkyB's costs

	June 2003	June 2002
Programming	1.604	1.439
Subscriber management	324	291
Marketing	401	417
Transmission	143	147
Administration	236	203
Gaming	108	88
Total	2.815	2.585

As illustrated by the table, the main operating expenses were from programming and marketing, following by subscriber management costs, administration costs, transmission costs and gaming costs. **Programming costs** which represents the largest single element of BSkyB's cost structure includes payment for:

- the rights to televise certain sporting events;
- licenses of television rights from certain film licensor;
- other programming acquired from third party licensors;
- the production and commissioning of original programming;
- the rights to retail the Sky Distributed Channels and the Music Choice and Music Choice Extra to DTH viewers.

[29] Interactive services' revenues are composed of betting revenues through Sky Gamestar and Sky Active.

[30] BSkyB is leader in providing a premium programming to cable operators in United Kingdom although none of these can transmit all Sky channels.

[31] Goodwill amortisation increased by £3 million during the comparable period to £122 million. This increase is largely due to a £5 million provision against goodwill which originally arose on acquisition of Opta Index Limited ("Opta").

[32] During the comparable period, BSkyB made an exceptional operating provision of £22 million against the wholesale revenues that were generated by ITV Digital. During the year 2003, the Group received a payment amounting to £5 million of this debt, generating a credit to the profit and loss account.

In the year June 2002/03 programming costs constituted 57% of operating expenses. In particular, sports costs, which represent 45% of total programming, spend, increased by £60 million to £723 million. This was driven by contractual increases in rights costs and the costs of non-annual events such as the Ryder Cup and the Cricket World Cup. Instead, movie channels' programming costs increased by 9% to £397 million reflecting the increase in the average number of movie subscribers and contractual increases. In particular, the film rights represent 25% of the total programme expenditure, films 25% and other entertainment forms 6%. Entertainment programming costs also increased by £9 million to £94 million, principally due to the scheduling of newly acquired programming and the launch of four new Sky channels during the year (Sky One Mix, Flaunt, The Amp and Scuzz). Finally, information programming costs increased by 15% to around £390 million.

Subscribers' management costs include:

- smart card costs;
- DTH subscriber bad debt costs;
- costs relating to the satellite reception equipment installation;
- the cost of Sky+ and other set top boxes.

The costs relating to free to air digital equipment and installation are included in marketing costs and not in subscriber management costs. The increase in costs of 11% was driven, first of all, by the higher number of digital subscribers and by the introduction of new product such as Sky+. Partly these costs are offset by lower call centres headcount and call volumes.

Marketing costs include:

- commissions payable to retailers and other agents, to whom BSkyB pay commission for the sale of subscriptions;
- promotional and related advertising costs;
- the cost of direct marketing with DTH subscribers;
- the cost of providing free digital satellite equipment to new customers.

We must remember that BSkyB supplies free of charge the reception antenna and the decoder to whom pay a subscription of at least 12 monthly basic package of Sky digital. Otherwise the digibox, the set top box supplied by Sky, costs around £150.
Marketing costs in the year June 2002/June 2003 declined by £16 million (-4%) despite broadly the same number of digital installations. The reduction was due to the combination of reduced hardware costs, an increase in installation revenues and a greater proportion of direct acquisitions.

Transmission and related functions costs, including other technical costs, are primarily dependent upon the number and annual rental cost of the satellite transponders. In the last year a decrease is estimated mainly due to reductions in technical operation costs through transponder cost efficiency savings.

In the last year, **administration costs** increased by 16%, including increases in insurance costs and disaster recovery planning costs.

Finally, the main **gaming expenditure** comprises the cost of payouts for winning bets placed via the telephone, the internet or via interactive television service. Gaming costs increased by £20 million to £108 million (+22%), due to growth in betting revenues.

Generally, we can say that during the year June 2002/June 2003, the continuing growth of DTH subscribers generated a revenue increase, despite ITV Digital closure. The number of DTH subscribers increased by around 700 thousand units to 6,8 million.

As investments illustrated, the key factors of Sky business are:

1. supplying a high quality content;
2. providing efficient and user-friendly equipment;
3. guaranteeing a quality assistance service to subscribers.

To measure its success, BSkyB uses three key factors:

1. the average revenue per user/subscriber (ARPU);
2. the number of subscribers who rescind their subscription every year (churn);
3. the subscriber acquisition cost (SAC), which is the average amount invested to create a subscriber base.

In June 2003:

1. the ARPU was £366. The increase of 5% from the last year reflected the change in BSkyB's UK retail prices which was effective from 1 January 2003, along with increased contributions from products such as Sky+ and higher usage of interactive services;
2. the churn was 9,4%, representing the minimum level registered since the launch of Sky digital;
3. the SAC was £207, representing a reduction of £27 on the comparable period. This reduction was principally driven by the combination of lower costs of set top boxes and other installation-related hardware, together with increases in the contribution made by the customer towards the installation cost, particularly for those customers on lower-tier packages.

Last, but not least, it is important to recall that since net debt peaked at 31 December, 2001 at around £1.833 million, the Group reduced its net debt by £728 million, to end the period at £1.105 million.

5. Final considerations

Digital television is developing as natural extension of analogue pay-TV whose main figures/operators are: the content producers, the programming editors, the distribution channels and the subscribers. Compared to a traditional broadcaster, digital transition represents for a pay-TV operator a more natural change, because it still owns specific know how with respect to the key functions of the pay-TV management (such as the subscriber management) and a subscriber base that as well as having a consolidated relationship with the operator's brand can easily turn to digital technology. The business model is in fact nearly the same, focused on the vertical integration of the pay-TV operator who controls:

- backward the content access (selected) through its presence in all the value chain phases and taking out, where there isn't, exclusive rights on the most attractive content;
- forward the access (selected) from the content binding the users, using exclusive right, which a pay television (and BSkyB) can guarantee, to the acquisition/rent not only of programs, but also of reception equipment (decoder) generally incompatible with the competitive platforms.

Vertical integration represents the key factor of this extension, guaranteeing the pay operator the competitive advantage with respect to its potential competitors, in terms of content access and direct relationship with the final user. Truly typical is the BSkyB case, where an analogue monopoly operator in the United Kingdom market has become the leading operator in the digital market.

Digital television, compared with analogue television, increases the level of competition on the demand side for consumer control and on the supply side for content control.
The supply increase favoured by digital development and accompanied by the launch of competitive platforms with the same or different transmission means (cable, satellite and terrestrial) - as happened in United Kingdom -, strengthens the bargaining power of the content provider, especially of the most attractive content owners (major and sportive rights owners), who can impose ever higher prices due to rights transfer. In fact, on the programming level, at the beginning of the analogue phase, a multi-channel and multi-service television platform (and BSkyB is a good example) tried, on the one hand,

to take out the exclusive rights on the most successful film titles and sport events, entering into an alliance with the main major and football teams, and on the other hand tried to extend as much as possible the exclusive rights on the films and to diminish the time span respect to the release of a film in order to strengthen film product value.

As previously shown, for BSkyB investments in programs acquisitions represent the main item of budget: this is in order to guarantee to the subscribers exclusive and attractive programming while trying to reduce the possible entry of new competitors in the same industry, negotiating as many agreements in exclusive rights as possible.
Thanks to the football and films rights' acquisition, a digital television company could:

- strengthen its supply identity with programs that can't be transmitted by traditional broadcasters;
- create a scenario in which more parties try to have the extended control of the new supply.

The increase in channel shifts the role of a television company from the schedule building through the program assembly, partly internally produced and partly acquired, to the construction of channel bouquets or packages, partly internally produced and partly acquired. To carry out its primary role, that is program organization, a television company must decide if it wants to acquire or produce the different programs.
The main function of a multi-channel and multi-service television platform is channel packaging. In this way, it sets up its supply not by producing or acquiring programs but above all by packaging channels. The broadcaster becomes then a packager who uses television resources of third parties in order to package the supply of its own platform.
Since the supply constituted by interactive services requires more complex and more expensive architecture, in comparison with the architecture of traditional television supply, it must provide:

a. a return path that connects the viewer to its server;
b. a conditional access system that manages the subscriber access to the services and guarantees the efficiency of the subscriber management system;
c. an electronic programme guide (EPG) that favours the content selection and its distribution on the internet.

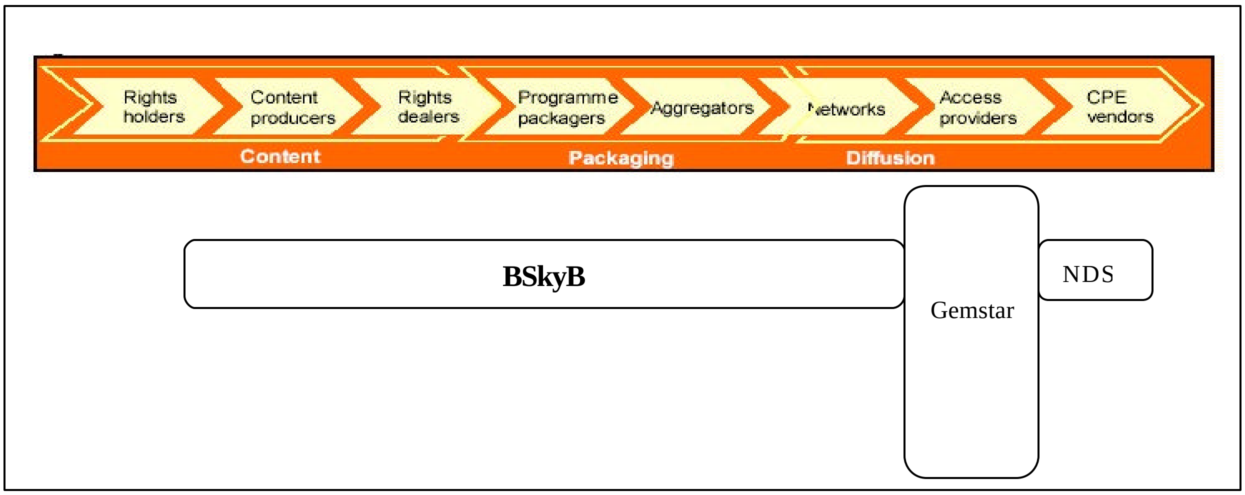
Regarding the supply of interactive services, the digital platform manager turned from being a simple tv service provider into an interactive digital television (iDTV) provider. This change involves some key factors that are the following (Preta, 2000):

- the critical mass: it is opportune to create a subscribers' basis so that the launch of new services can be successful (for example, allocating grants for the rent of a decoder can be a decisive factor for the increase in subscribers, as shown by BSkyB case);
- a set top box preset to receive interactive services;
- a simple and fast access: the "portal provider" must be in a position to have a bandwidth allowing easy reach to the consumer;
- connection with the EPG and television programs: competition/integration between the activities of the portal and the service provider is essential for the success of iDTV services;
- the customer management: it is very important because it allows the portal provider to manage all subscriber profile. This information is at Subscriber Management System's (SMS) disposal and allows the portal provider to use the set top box smart card to manage them;
- the brand: a key factor for the iDTV portal's success is to achieve brand status in relation to other possible competitive suppliers and also to other distribution channels. To achieve brand success, a company must make investments, especially in marketing and advertising;
- added value services: to increase the iDTV portal use, it is advisable to create a range of attractive services, such as gaming, e-mail etc.

If we consider the extreme flexibility of the new services, product marketing and branding strategies become really important for different digital bouquet operators and single content providers to manage/guide the subscribers' choices, consolidate customer retention to the bouquets and introduce an ever greater personalized supply that satisfies needs and desires of the targets. BSkyB, in fact, always considers the family's features, because they take two important decisions: the first one concerns the expenditure needed to have access to the new services (satellite antenna, set top box, …), and the second one relates to the expenditure needed to use the services such as the subscription. With the advent of digital television, the relationship between the supply and the demand of programs and service strengthens. The user doesn't pay to watch a flow programming, but specific programs. So the supply must conform to content and service demand to optimize the revenues of the company.

If we apply to BSkyB the value chain previously illustrated, we observe that the television company is a unique vertically integrated operator that incorporates different roles: rights holder, content producer (especially of interactive services), rights dealer, programme packager and aggregator, network, access provider as well as Customer Premises Equipment vendor. More precisely, the last two functions are managed respectively by Gemstar and NDS Group, subsidiary of News Corporation. Schematically:

Figure 3: The value chain of BSkyB



Currently, the BSkyB business model is based on the vertical integration between the content provider, packager and gatekeeper functions. It backward produces programs and acquires rights by third parties rights (sport and film), in the middle packages channels and services addressed to different targets and forwardly, as manager of the most efficient distribution system (*gateway*), it binds the users to its access equipment and to its services. In this way BSkyB plays the role of gatekeeper of the gateway between demand and supply. This role is more important with the advent of digital technology[33]. In particular, with Sky digital, BSkyB is a platform owner who catalyses the supply and articulates it in terms of marketing, making available to the subscribers the service infrastructure needed to access the content. It is a packager of different channels provided by many national and international channel producers; it manages the distribution networks, is responsible for the commercialization of the packages and for subscribers' management, including service qualification and client assistance, and owns a conditional access system. Thanks to this strategy, integrated backward (content production and rights' holding) and forward (distribution channels' management) BSkyB controls the whole digital services value chain. BSkyB, in fact, also manages the distribution channels (terrestrial, cable other than satellite) and the set top boxes. Since its primary function requires a lot of investments which conditions the profitability of the single channels, BSkyB has leased satellite transponders allowing digital transmissions and has sub-leased their transmission capacity to its own bouquet channels. The second function represents a critical key success factor for the company, because at the beginning of its digital supply phase, BSkyB developed a conditional

[33] According to Horsman (1997, p. 198), BSkyB is "a horizontally integrated business, that's why it's in digital terrestrial, cable, satellite you know smoke signals, what ever the platforms are, we're a programme deliverer".

access system incompatible with the other ones and integrated it in set top boxes distributed in collaboration with the main producers (Panasonic, Grundig, Pace etc.).
Furthermore, referring to the content and services, BSkyB as a network transmits on its own infrastructure and is responsible of the development, maintenance and operations of the transmission infrastructure. More precisely, BSkyB is also access provider, because it is responsible for digital platform development, billing, subscriber and set top box management.
The process used by BSkyB clarifies the relationship between the two strategic functions – content packager (backward) and gatekeeper, distribution system operator (forward) – to guarantee the greatest profitability. The first function, strategically more important because it represents the key factor to attract its subscribers, but also the less controllable because it is open to competition, is penalized in comparison with the second one, where BSkyB operates a monopoly. In this way the pay-TV operator moves business profitability to the side of the gateway (the distribution system), the only segment with extensive profit, penalizing the content providers, to whom access to Sky platform represents the only realistic opportunity of entry in the television industry. The service provider, as meeting point of demand and supply, not only transmits services, but also determines the conditions for the creation of the whole industry. The achievement of critical mass stimulates the operator to take all the process phases, from the hardware to the software, from the creation and the modifying of the infrastructures to the development of encoding and decoding systems, upon itself.

Finally, still referring to the illustrated case, we can say, by way of summary, that BSkyB's success is due principally to the following reasons:

a. offer quality and diversification from the traditional free to air supply in the United Kingdom;
b. promotion and marketing ability;
c. availability of easy and convenient reception equipment;
d. a capillary network of subscription sale and reception equipment installation outlets;
e. a broad and innovative supply of interactive services.

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