

## Chapter 2

# The Broadcasting Ecosystem

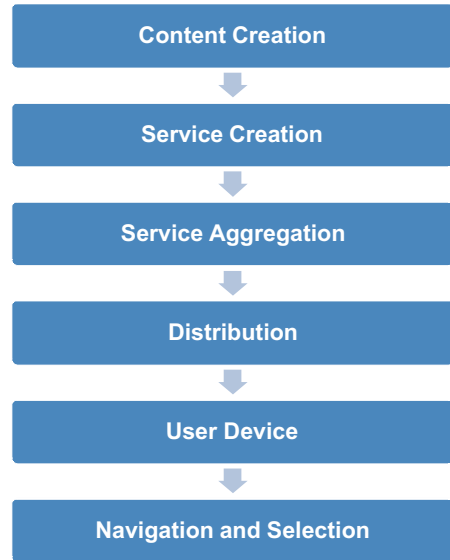
For most people broadcasting is a synonym for receiving and enjoying many different types of radio and television programmes. Over more than a century it has been the primary source of audio-visual content. Even though not visible for the public, the broadcasting industry encompasses a great variety of different branches which contribute to the production and distribution of radio and TV programmes. The broadcasting value chain begins with those who produce content, i.e. in the first place radio and TV programmes, and ends with those who deliver and offer this content to users. Figure 2.1 sketches the different areas along the value chain.

The first element in the broadcasting ecosystem is the creation of audio-visual content. This includes radio shows, movies, documentaries, news for radio and TV, etc. These are the classical content offers of broadcasters. However, with the advent of the Internet new types of content have emerged such as websites, blogs, social media appearance, and so forth. In the meantime these new forms developed into an indispensable pillar of the content offer of modern broadcasting companies. For the discussion presented here, the terms “content” or “broadcast content” is meant to address the entire offer of a broadcasting company.

Broadcast content is offered to users in terms of a broadcast service. This means a set of different elements such as movies, shows, news, sports, etc. is bundled and offered as a package. The major part of broadcast services are radio or television programmes. However, a broadcast service may also contain non-traditional components as for example on-demand content or social media.

When talking about broadcast services it is important to make a distinction between linear and nonlinear content. Linear broadcast content or service refers to the traditional way of offering radio or TV services. Listeners and viewers tune in to the scheduled sequence of content and consume what they are offered over a certain period of time. The sequences of radio and TV programmes are set up by broadcasters and cannot be changed by a listener or a viewer. The only user interaction with regard to linear services is to change from one service to another

**Fig. 2.1** The broadcasting value chain



or to switch off if the programme is not attractive. Linear broadcast services are not restricted to traditional broadcasting distribution technology. For example, a live stream on the Internet is to be considered as a linear service as well.

On the contrary, nonlinear content or services require some level of user interaction beyond switching on and selecting something. Typically, the user can select individual pieces of content and control, as a minimum, the timing and sequence of the consumption. Particularly popular nonlinear services are time-shifted and catch-up services. They offer the consumption of content after the start of the live transmission, either while it is still on air (time-shifted) or at a convenient time later (catch-up). Typically, catch-up services are available for a certain period of time, for example a week depending on regulatory and economic constraints.

Other forms of nonlinear broadcast services encompass downloading content to local storage for future consumption or on-demand access to audio and video content for immediate consumption. Furthermore, associated offers such as dedicated websites or data services supporting particular programmes fall under the category of nonlinear services, too. The outstanding characteristic of nonlinear services is the autonomy they offer to the user to decide what to consume, where to consume it, when and on which device.

Content creation is one of the primary tasks of broadcasting companies around the world. They produce news, music shows, and programmes for children, shoot movies and documentaries, and create daily soaps. However, they are not the only creators of content. A huge movie industry, such as the famous studios in Hollywood, produces premier content not only for cinemas but also deliberately for making them available through broadcasting companies. With the digitization of audio-visual content production more and more new players enter the market.

Companies such as Netflix or Amazon spend money on content production themselves with the intention to monetize their products on their own behalf.

The next step in the broadcasting value chain is bringing together more than one service in order to be able to offer a bundle of broadcast services. Many broadcasting companies are actually doing exactly this. Indeed, public service broadcasting companies in Europe are usually offering more than one service. The BBC in the UK has several TV channels providing content 24 h a day, seven days a week. So does the Italian RAI or the German public broadcaster ARD.

On the other end of the chain there are the users which employ very different devices to consume audio-visual content. Traditionally, consumption of broadcast content required usage of a broadcasting receiver, both for radio and TV. Still today there are dedicated broadcasting receivers for fixed, portable, and mobile reception. However, broadcast services are offered over broadband networks as well. In this case, the receivers are either computers or personal devices such as smartphones or tablets.

User devices are getting more and more comfortable. This refers in particular to the support regarding navigation and selection of content. Electronic programme guides are widespread. On personal devices access to broadcast content is often governed by dedicated software applications called apps.

The link between the content side and the user side is established by the distribution mechanism. This is the main topic of the analysis presented here. Before the Internet age broadcast services were distributed by means of dedicated broadcasting networks,<sup>1</sup> i.e. terrestrial, cable, or satellite networks. Today also broadband networks, both wired and wireless are used to carry broadcast content.

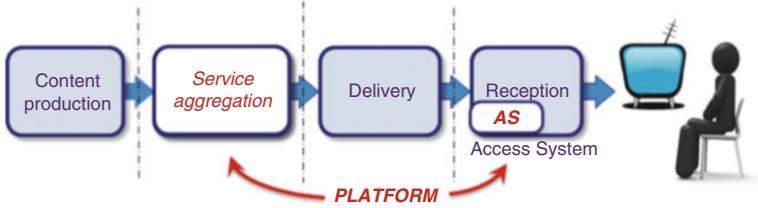
Broadcasting or broadband networks are operated by a network operator who sells capacity on the network to content providers in order to carry their products to the users. For example, a broadcasting company such as SWR which is one of the German public broadcasters has a contract with a satellite operator which distributes a defined number of TV programmes through satellite transmission across a large area. The network operator does not provide services himself.

Usually, broadcasters distribute their content over several networks. In order to fulfill their public mandate or to support a particular business model, broadcasting companies select a combination of distribution possibilities which suits them best. Some broadcasters may make their content available through any broadcasting or broadband network, while others choose to use only a subset, for example a terrestrial broadcasting network and satellite, but do not engage with cable distribution.

Whenever the discussion will touch upon a choice of different technical ways to distribute content the term “distribution option” will be used. This refers to the

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<sup>1</sup>Whenever the transmitter network is meant the term “broadcasting network” is used in order to avoid any misunderstandings. In some regions of the world “broadcast network” can also be used when talking about the network. However, in the USA, for example a broadcast network is usually understood as a broadcasting company such as ABC or NBC.



**Fig. 2.2** Definition of a distribution platform

physical network or the network technology itself. This is quite often mixed in the public discussion with the term “platform” or “distribution platform” where the word platform is also used to describe the network itself, like talking about “the terrestrial platform” and meaning terrestrial networks in general terms.

For the discussion here the term “platform” will be used to describe something else. According to that, a platform consists of two elements, i.e. a service or a set of services in conjunction with a piece of hardware or software necessary to access the service (see Fig. 2.2). This means the distribution mechanism is not needed to build a platform. Hence, a platform provider does not need to operate a physical network over which content is delivered. There are platforms on traditional broadcasting networks such as Pay-TV platforms on cable or satellite. Well-known Internet platforms are, for example, Netflix or Apple-TV.

Along the broadcasting value chain as shown in Fig. 2.1 there live a huge number of different companies. There are those providing and aggregating content followed by others which create services based on their own content, sometimes complemented by external products. The distribution part sees many different types of networks and infrastructure providers. A plethora of manufacturers of transmitter equipment or network infrastructure are trying to sell their products to the network operators. Last but not least, device manufacturers of various kinds are trying to get their share. With the increase of Internet proliferation the market of audio-visual content has become a center of focus also for companies which were concentrating on broadband services only such as smartphone and tablet manufacturers.

For many players within the broadcasting ecosystem the term “broadcaster” is used. This holds in particular for broadcasting companies whose business is to produce content, create services, and aggregate them. Their services, though, are distributed by other companies in most cases. The BBC [BBC16] is a prominent example for such an arrangement.

However, among broadcasters there are also those doing the same but in addition operating their own terrestrial distribution networks, for example FM or DVB-T/T2 networks. Some of the German public broadcasting companies fall in this category such as SWR [SWR16].

Then, there are companies which solely operate terrestrial broadcasting networks in order to distribute the content of broadcasting companies. Also those companies consider themselves as broadcaster. And finally, sometimes even manufacturers who produce radio or TV receivers see themselves as broadcasters.

Clearly, the interests of all these “broadcasters” are not 100 % congruent. For the sake of clarity, in the following discussion the term broadcaster is only used for broadcasting companies which create content and services irrespective of whether they happen to still operate their own networks or not. Others will be distinguished by calling them explicitly network operators or manufacturers.

Following this logic, there are two main types of broadcasters which are public service broadcasters and commercial broadcasters. Public service broadcasters (PSB) are supported by public money and special regulation (see Sect. 7.1). Most commercial broadcasters finance their services through advertisements in their programmes. However, there are more and more commercial broadcasters which offer their content on pay-per-view or subscription basis.



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